

00 01028

INSTITUTE OF GOVERNMENTAL
STUDIES LIBRARY

AUG 1 2000

UNIVERSITY OF CALIFORNIA

 DRAFT
SHASTA

 COUNTY

 GENERAL

 PLAN

**SHASTA COUNTY GENERAL PLAN
(DRAFT)**

October, 1981

INSTITUTE OF GOVERNMENTAL
STUDIES LIBRARY

AUG 15 2000

UNIVERSITY OF CALIFORNIA

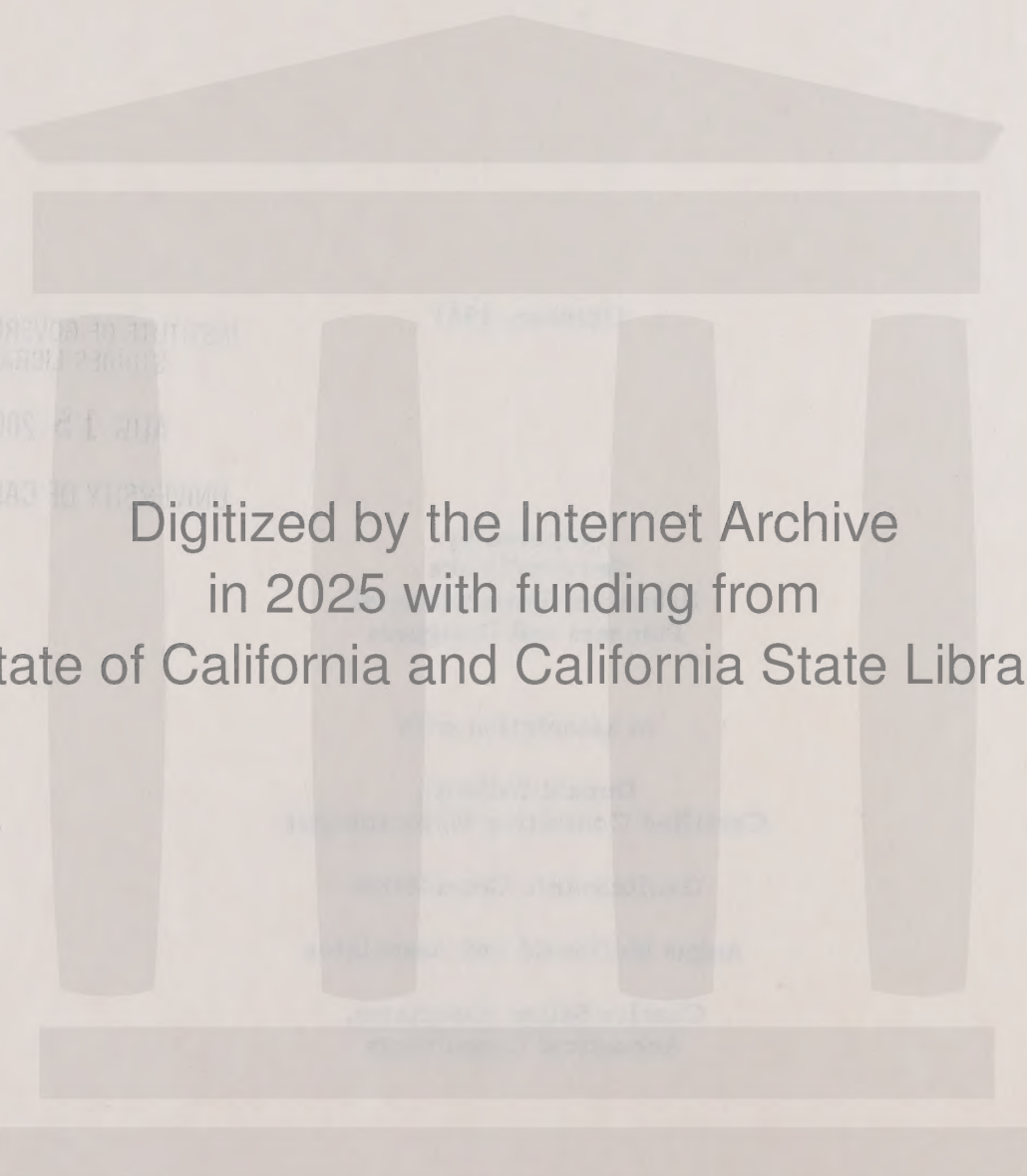
Prepared by
Sedway/Cooke
Urban and Environmental
Planners and Designers

In association with
Donald Ballanti,
Certified Consulting Meteorologist

GeoResource Consultants

Angus McDonald and Associates

Charles Salter Associates,
Acoustical Consultants



Digitized by the Internet Archive
in 2025 with funding from
State of California and California State Library

<https://archive.org/details/C124922498>

ACKNOWLEDGEMENTS

Contributions from the following individuals during the preparation of the Shasta County General Plan (Draft) have been greatly appreciated.

SHASTA COUNTY BOARD OF SUPERVISORS

John Caton, Chairman
Dan Gover
Don Maddox
John Strange
Steve Swendiman

SHASTA COUNTY PLANNING COMMISSION

Bob Bosworth, Chairman
Stephen Albaugh
Russ Reiner
Paul Vander Schans
Dan Woolery

SHASTA COUNTY PLANNING DEPARTMENT SUPPORT STAFF

Joe Hunter, Director
Jim Cook, Assistant Director
Denis Cook, Principal Planner
Phil Carr, Planning Assistant
Carolyn Taylor, Secretary/Steno III
June Arnold, Secretary/Steno III
Dorothy Cupp, Typist-Clerk II

GENERAL PLAN INTERDEPARTMENTAL STEERING COMMITTEE

Bill Minton, County Executive

Planning Department:

Joe Hunter, Director
Jim Cook, Assistant Director
Denis Cook, Principal Planner

Department of Public Works:

Richard Curry, Director
Lowell Britain, Engineering
Ed Seigmund, Subdivision Engineering
Harvey Holmquist, Building Department

County Water Agency:

Larry Preston, Chief Engineer

Division of Environmental Health:

Dale Watson, Director
Fred Morrison, Supervising Sanitarian

Agricultural Commissioner and Sealer of Weights and Measures:
Bruce Wade, Agricultural Commissioner

California Department of Forestry:
Gary Harlow, Unit Forester

County Counsel's Office:
John Kenny, County Counsel
Dave Frank, Deputy County Counsel

Sheriff's Department:
John Balma, Sheriff

Emergency Services and Communications:
Rob Neslen, Lt.,

Community Action Agency:
Bill Ware, Director

Assessor's Office:
Tony Estacio, Office Services Manager

INTERJURISDICTIONAL COORDINATING COMMITTEE

Robert Korfhage
Bureau of Land Management

Gary Harlow
California Department of Forestry

Randall Reeves
Soil Conservation Service

Tom Stone
California Department of Fish and Game

Ray Foust
Whiskeytown N.R.A.

Douglas Denton
California Department of Water Resources

Bill Stephenson & Dick Vame
Lassen Volcanic N.P.

Charles McKee
CalTrans

Dick Bowie
Shasta Trinity National Forest

Jim Pedri
California Regional Water Quality Control
Board

Don Winslow
Lassen National Forest

William Beat
California Department of Parks and
Recreation

Paul Capener
Water and Power Resources Service

Al Perez
Keswick CSD

James Wilbur
City of Anderson

Cecil Ray
Fall River Mills CSD

Phil Perry
City of Redding

Earl Love
Shasta Dam Area PUD

Dave Taylor
School Districts

Julie Howard
LAFCO and County Service Areas

Dave DuBose
Shasta College

Jack Bishop
Cottonwood County Water District

John Goodson
Anderson-Cottonwood Irrigation
District

Phil Browning and Joan Gannon
Centerville Water District

Gerald Benoit
Bella Vista Water District

Velma Smith and Arthur Trenerry
Clear Creek CSD

Charles Lawson
Burney County Water District

COUNTYWIDE PLANNING ADVISORY COUNCIL

Wayne Adams
Chet Adkison
Stephen Albaugh
Mary Allegrone
Bruce Allen
Roasalie Alman
Grant Amen
Lee Anderson
Rod Ash
Jaxon Baker
Louis Bargas
Macil Bargas
Frank Barron
Bob Bosworth
Barbara Caldwell
Walter Callison
John Caton
Len Cerney
Molly Cole
Robert Cooper
Dick Copland
Virgil Covington
Karen Daly
Jane Decker
Betty Douglas
George Dymesich
Robert Edmonson
Joseph Ervin
Mike Evans

Ronald Ferraro
Lamar Fine
Elmer Fish
Gary Fosgate
Ray Francis
Irwin Fust
Jeff Ghilardi
Pat Glunt
Dan Gover
Glynn Gregory
Richard Grogan
Donna Harris
Collin Hammans
Jill Hauser
George Herrick
Dean Hickle
Connie Hitchcock
Maxine Holder
Carrol Horn
Walter Hurlburt
Karen Isbell
Arthur Johnson
Nancy Johnson
Mahlon Kirk
Ted Klassen
Robert Lake
Elmer Larson
Earl Loftus
Tim Mallory
Hazel McKim
Gloria Mehl

Shel Meyer
Carol Sue Meissner
Dean Murray
Clifford Oiler
Jack Park
Flora Pearson
Charles Pelsner
Gerald Peters
Jim Quackenbush
Fred Quigley
William Rhyne
Jim Rickert
Richard Riis
Bill Roake
Dale Rukes
Michael Royston
Linda Salter
Ellie Seidel
Larry Solberg
Phyllis Solberg
Larry Souza
Lennart Swenson
Johanna Trenerry
Bruce Webb
Carl Weidert
Stanley Weidert
Doug Wickizer
John P. Wilson
Jane Wittmann
Dan Woolery
Vivian Wright

TABLE OF CONTENTS

Part One - Preface

	<u>Page</u>
INTRODUCTION	I-1
Purpose and Contents of a General Plan	I-1
The General Plan and the Regulatory System	I-6
Organization and Use	I-8
FRAMEWORK FOR PLANNING	I-14
Natural Environment	I-14
Man-Made Environment	I-16
Institutional Environment	I-17
Potential For Environmental Change	I-19
General Plan as a Response to Change	I-22
THE GENERAL PLAN CONCEPT	I-23
Objectives	I-23
Description of the Plan Concept	I-34

Part Two - Countywide Elements

PUBLIC SAFETY GROUP	II-1
Seismic and Geologic Hazards	II-2
Flood Protection	II-8
Dam Inundation	II-13
Fire Safety and Sheriff Protection	II-17
Noise	II-22
Hazardous Materials	II-24
Air Quality	II-28
Water Quality	II-28
RESOURCES GROUP	II-29
Agricultural Lands	II-30
Timberlands	II-50
Minerals	II-59
Energy	II-64
Air and Air Quality	II-73
Water and Water Quality	II-77
Fish and Wildlife Habitat	II-80
Scenic Highways	II-92
Open Space and Recreation	II-102
Heritage Resources	II-115

	<u>Page</u>
COMMUNITY DEVELOPMENT GROUP	II-121
Community Organization and Development	
Pattern	II-122
Economic Development	II-160
Housing	II-165
Circulation	II-172
Water Supply, Wastewater Treatment and Solid	
Waste Disposal.....	II-193
Schools, Libraries and Community Recreation.....	II-205
Community Design	II-215

Part Three - Community Plans

SACRAMENTO CANYON	III-1
South Dunsmuir Rural Community Center	III-3
Castella/Sweetbriar Rural Community Center.....	III-3
Lakehead Rural Community Center.....	III-5
Lakeshore Rural Community Center	III-6
NORTHWESTERN FOREST.....	III-9
BIG BEND.....	III-13
Round Mountain Rural Community Center	III-15
Montgomery Creek Rural Community Center	III-15
Big Bend Rural Community Center	III-16
NORTH EAST SHASTA COUNTY.....	III-19
Burney/Johnson Park Town Center.....	III-21
Fall River Mills/McArthur Town Center	III-27
Hat Creek Rural Community Center	III-31
Cassel Rural Community Center	III-32
LASSEN	II-35
Old Station Rural Community Center	III-37
EASTERN FOREST.....	III-39
Shingletown Rural Community Center.....	III-41
EASTERN UPLAND	III-43
Millville Rural Community Center.....	III-45
Oak Run Rural Community Center.....	III-46
Whitmore Rural Community Center.....	III-46

	<u>Page</u>
SOUTH CENTRAL REGION	III-47
Anderson Urban Area	III-49
Redding Urban Area	III-53
Central Valley Town Center	III-59
Cottonwood Town Center	III-69
Bella Vista Rural Community Center.....	III-73
Centerville Rural Community Center	III-74
Happy Valley Rural Community Center.....	III-79
Jones Valley Rural Community Center	III-82
Mountain Gate Rural Community Center	III-83
Shasta/Keswick Rural Community Center	III-84
Palo Cedro Rural Community Center	III-85
WESTERN UPLAND	III-89
Igo Rural Community Center	III-91
Ono Rural Community Center.....	III-92
Platina Rural Community Center	III-92
FRENCH GULCH	III-95
French Gulch Rural Community Center	III-97
<u>Part Four - Overall Implementation Program</u>	IV-1
Introduction	IV-1
Objectives	IV-2
<u>Part Five - Environmental Impacts</u>	V-1
Introduction	V-1
Overall Summary of Environmental Issues	V-3
Description of the Project	V-4
Environmental Setting and Impacts	V-4
Relationship Between Local Short-Term Uses of Man's Environment and the Maintenance and Enhancement of Long-Term Productivity	V-20
Growth Inducing Impacts of General Plan	V-21
Plan Alternatives	V-22
List of Organizations and Persons Consulted	V-23

APPENDICES

(Bound Separately)

- A Population, Housing, Employment Projections
- B Development Suitability
- C Plan Alternatives
- D Water and Wastewater Treatment

- E Seismic and Geologic Hazards
- F Environmental Noise
- G Air Quality
- H Housing

LIST OF TABLES

<u>Table</u>		<u>Page</u>
DI-I	Shasta County Dams Whose Failure May Result in Injury or Loss of Life	II-15
FS-1	Shasta County Fire Departments and Fire Districts	II-20
AG-1	Number and Size of Shasta County Farms.....	II-33
AG-2	Farms by Size	II-33
AG-3	Shasta County Farms by Value of Sales.....	II-35
AG-4	Principal Occupation of Farm Operators.....	II-36
AG-5	Farms With Operators Reporting Days of Work Off Farm	II-36
AG-6	Farms With Operators Providing Custom Farm Services for Others.....	II-36
AG-7	Minimum Parcel Size Requirements.....	II-44
T-1	Area of Commercial Forest by Ownership Class	II-52
T-2	Summary of California Timber Harvest.....	II-53
T-3	Resource Value and Parcel Size Requirements for List C Procedure	II-57
M-1	Mineral Resources Classification	II-62
E-1	Average Monthly Weather, Redding	II-68
E-2	Average Monthly Weather, Alturas	II-68
FW-1	Rare and Endangered Plants of Shasta County	II-82
FW-2	Shasta County Natural Areas	II-85
OSR-1	Shasta County Open Space Inventory	II-105
HER-1	Shasta County Heritage Resources.....	II-118
CO-1	Shasta County Land Resources	II-124
CO-2	Future Land Requirements for Residential and Employment Purposes	II-124
CO-3	Developable Land Supply	II-126
CO-4	Vacant Residential Lot Inventory in Shasta County	II-126
CO-5	Distribution of Population and Dwelling Unit Growth Targets by Planning Area	II-129
CO-6	Distribution of Population and Dwelling Unit Growth Targets Within Planning Areas.....	II-130
CO-7	Living Environments and Applicable Policies	II-147
CO-8	Policies Governing Relationship of Living Environments to Land Use Designations	II-148
CO-9	Residential and Growth Reserve Land Use Categories, Density and Housing Type Policies	II-149
CO-10	Commercial Land Use Categories and Policies	II-152
CO-11	Industrial Land Use Categories and Policies.....	II-156
WS-1	Allocation of CVP Water in Shasta County	II-195
SLR-1	Pupil Generation Factors, Shasta County Schools	II-207
SLR-2	Estimated Student Population Growth, 1981-1986	II-208
SLR-3	Shasta County Library Facilities	II-210
SLR-4	New Library Registrations 1975-1980 by Location	II-211

SLR-5	Park Lands and In Lieu Fee Dedication	
	Requirements.....	II-214
CE-1	Countywide Elements and Related Objectives	II-225
OIP-1	Shasta County General Plan Overall Implementation	
	Program Countywide Elements.....	IV-4
OIP-2	Shasta County General Plan Overall Implementation	
	Program Community Plans	IV-15

LIST OF FIGURES

<u>Figure</u>		<u>Page</u>
PRE-1	Time Frame of Shasta County General Plan	I-3
PRE-2	Countywide General Plan Elements	I-5
PRE-3	Planning Area Boundaries	I-11
PRE-4	Actual and Projected Population Growth	I-20
PRE-5	Community Organization	I-41
PRE-5A	Community Organization - South Central Region	I-43
PRE-6	Examples of Variable Lot Sizes Through Density Averaging	I-48
FL-1	Floodplain Schematic	II-10a
FS-1	Fire Hazard Severity Scale	II-18a
N-1	Land Use/Noise Level Compatability Criteria	II-24a
E-1	Estimated 1980 Delivered Energy Use by Sector	II-66
E-2	Estimated 1980 Delivered Energy Use by Fuel Type	II-66
SH-1	Scenic Highways	II-95
OSR-1	Bicycle Trail Policy	II-109
OSR-2	Equestrian/Hiking Trail Policy	II-111
CO-1	Interjurisdictional Planning	II-137
CO-2	Hypothetical Land Capability Matrix	II-141
C-1	Major Transit Corridor Policy	II-179
C-2	Typical Public Transit Corridor	II-181
C-3	Street Standards	II-188
WS-1	Policy Matrix for Location of Land Uses Relative to Water Supply and Wastewater Treatment	II-197

MAPS
(Bound Separately)

PLANNING AREAS

Sacramento Canyon
Northwestern Forest
Big Bend
North East Shasta County
Lassen
Eastern Forest
Eastern Upland
South Central Region *
Western Upland
French Gulch

TOWN CENTERS/RURAL COMMUNITY CENTERS

Town Centers*

Burney/Johnson Park
Fall River Mills/McArthur

Rural Community Centers*

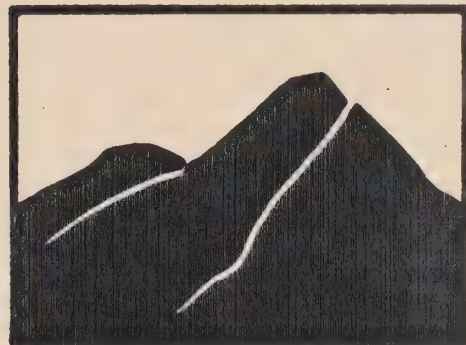
Castella/Sweetbriar
Lakehead
Lakeshore
South Dunsmuir
Big Bend
Montgomery Creek
Round Mountain
Cassel
Hat Creek

Shingletown
Millville
Oak Run
Whitmore
Igo
Ono
Platina
French Gulch
Old Station

*The South Central Region Planning Area map prepared at 7 1/2 minute scale (1"= 1 mile). All other planning areas mapped at 15 minute scale (1" = 2 miles). SCR map includes Town Centers of Cottonwood, Central Valley, Stillwater and Upper Churn Creek; and Rural Community Centers of Bella Vista, Centerville, Happy Valley, Jones Valley, Mountain Gate, Shasta/Keswick, and Palo Cedro

Part One

PREFACE



Introduction

PURPOSE AND CONTENTS OF A GENERAL PLAN

Definition

A general plan is a long-range statement of local public policy primarily addressing the use of the privately and publicly owned land resources located within the government's jurisdiction. As indicated by its name, a general plan is not a detailed, parcel-specific, policy statement. Instead, it establishes a generalized pattern of future land use which provides the basis for more detailed plans.

Relation to Existing Land Uses

A general plan will not always reflect the existing land use pattern, and its function should not be confused with that of an existing land use map. An existing land use map is a parcel specific documentation of land uses as they now exist or existed at some past point in time. By definition, an existing land use map is obsolete at the moment of its publication because land uses are continually changing. In contrast, a general plan describes a generalized and nonparcel-specific land use pattern and it does not represent a particular point in time, either past, present, or future. Accordingly, existing land uses are not always reflected in a general plan. In some instances, the plan may ignore individual, small scale differences in land use and present a generalized picture which represents the dominant land use character of an area. In other instances, the plan may show the transition of an existing land use to a new, different land use. Finally, the general plan attempts to show land use over a relatively long time period, in this case 20 years.

Relation to Zoning

The general plan should also not be confused with the zoning ordinance map. A zoning ordinance map is a parcel-specific statement of how lands may be used in the present and the near future. As a legal instrument, the zoning map has immediate force and effect. In contrast, the general plan is a generalized, long-term statement of land use. It does not have direct and immediate effect on land use. The function of a general plan is to provide a policy framework that must be reflected in the zoning ordinance and specific plans, which are the primary mechanisms for implementing these policies. Since it is a long-term statement of land use policy, it is possible that the ultimate use of a particular land area, as shown in the plan, may differ from the existing use currently permitted by the zoning ordinance map. As prescribed by phasing mechanisms contained in the plan, the zoning ordinance must be revised at the appropriate times to reflect the long range land use policies in the plan.

Given this relationship between the General Plan and zoning, the zoning ordinance map will not and should not be a mirror-image of the land use plan map. This type of one-to-one correspondence is not required by the consistency requirements discussed below. Because the plan map is generalized, it will not show the location of small scale land uses, such as neighborhood commercial centers. The plan should contain policies governing the location of such small scale uses, and it will be necessary to exercise judgment in

interpreting these policies. In other words, the plan will not provide automatic, locationally precise answers in all cases, but may require interpretation of plan policies in certain instances. Taking another example, the plan map may show an ultimate use for a particular area which is different from its existing use and zoning. It is appropriate to let the existing zoning stand to allow for the continuation of this existing use, provided that the zoning is gradually revised over time to phase in the ultimate land use pattern.

Time Frame

A general plan has a long-range time frame. It looks beyond the present and the immediate future to address some reasonable period of future time. Traditionally, general plans were end-state oriented; that is they projected an ultimate land use pattern and established an arbitrary date for its achievement. End-state general plans presented many problems, the most significant of which were unresponsiveness to changing conditions and the difficulty of implementing an end-state land use pattern which provided little or no guidance concerning the day-to-day phasing of development.

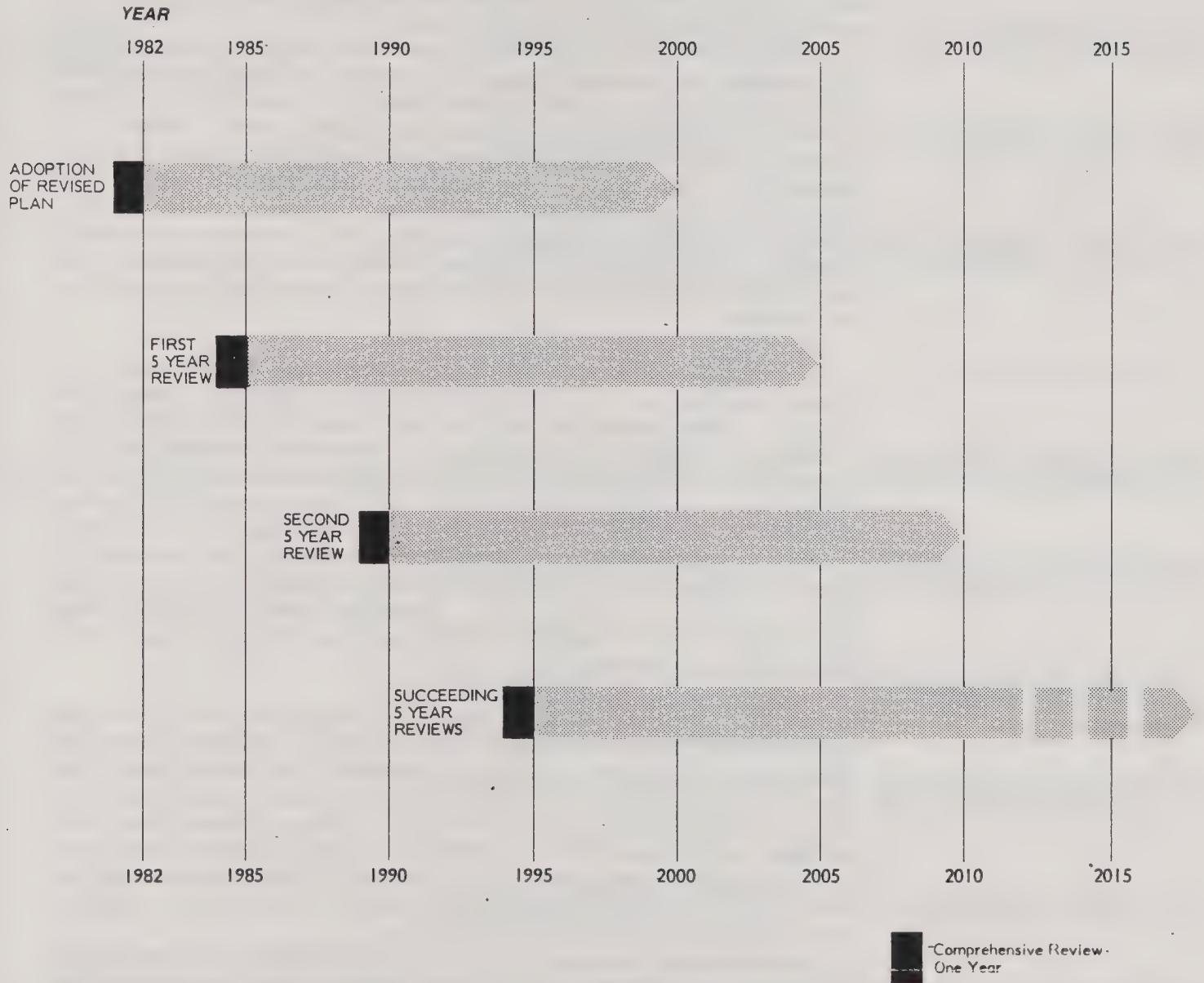
End-state plans have largely been replaced by plans using time frames of 10, 15 or 20 years. The Shasta County General Plan reflects a twenty year time horizon. This is a comprehensible period of future time which allows for the systematic implementation of a desired land use pattern. To provide for flexibility and responsiveness to change, the Plan also requires a comprehensive review and revision, if appropriate, at five year intervals. This periodic update will allow the Plan to always maintain at least a 15 to 20 year time frame, as shown in Figure PRE-1.

It must be emphasized that periodic review of the Plan is not synonymous with total overhaul. Once adopted, the Shasta County General Plan establishes a basic policy framework which must be followed over time. The purpose of reviewing the Plan every five years is to allow it to adjust in response to changing conditions, both internal and external to the County; the availability of more recent planning data; and shifts in community values. Only under the most extraordinary circumstances, such as a major local disaster, a national emergency, or the complete failure over a long span of time to periodically review the Plan, will a thorough and total overhaul be necessary.

Public Policy Statement

Fundamentally, the general plan is a statement of public policy reflecting the aspirations and values of Shasta County residents which is adopted by their elected representatives. In keeping with California's strong tradition of local government autonomy, the general plan charges the residents of a community with the responsibility to directly decide the particular nature and quality of their immediate living environment. Within every community, even one as relatively homogeneous as Shasta County, exists a diversity of individual values and aspirations as to what is a desirable community. The general plan is a mechanism by which a community may articulate its values, determine their relative importance, and assess their comparative long-term implications. There are no "correct," "right," or "ideal" general plans, but only plans which more or less reflect a particular set of values. It follows that the

FIGURE PRE-1
Time Frame of Shasta County General Plan



process by which diverse community values are reduced to a relatively cohesive and consistent body of public policy is as equally important as the resulting body of policy.

State planning law accordingly provides a detailed procedure for the adoption of general plans, the intent of which is to allow individuals ample and equal opportunities to be heard in an attempt to persuade others to accept or acknowledge their values. In exchange for these opportunities, all participants share in the responsibility to accept and support the policies which are incorporated in the adopted plan. Once adopted, these policies become the basis for day-to-day decisions by elected and appointed officials. By this means, the values reflected in the general plan policies shape and form the community and quality of life sought by its residents.

Citizen Participation

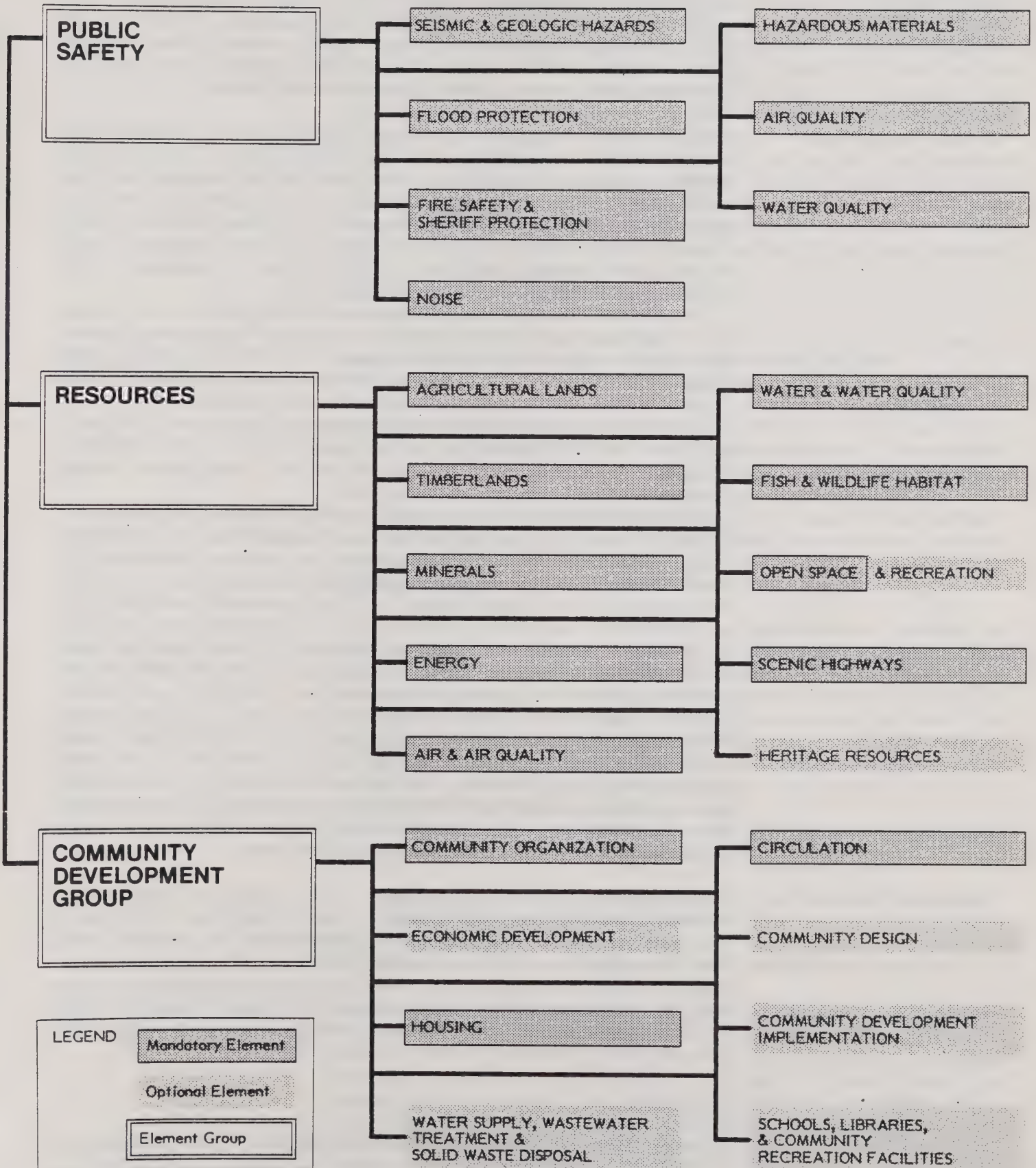
The Shasta County General Plan reflects the participation of citizens serving on the Countywide Planning Advisory Committee (CPAC). After soliciting applications through a self-nominating process, the Board of Supervisors appointed 47 persons to this committee. Its representation included both geographic areas of the County and Countywide interests. Also serving on CPAC were members of the Board of Supervisors and the Planning Commission. Over an approximately one year period, CPAC held nine meetings at various locations in the County. Detailed minutes of these meetings and attendance records are available from the Planning Department. All meetings were held on Saturday and were extremely well attended.

Contents

Although a general plan is primarily concerned with land use decisions, land use is intimately related to other subjects which must also be considered in the planning process and the general plan. The subject areas which are addressed by the Shasta County General Plan are diagrammed in Figure PRE-2. State planning law both requires the inclusion of some of these subject areas or elements in the General Plan and permits the inclusion of other elements at the discretion of the community. So-called mandatory and optional elements are indicated in Figure PRE-2.

State planning law also permits the combination and grouping of elements and expressly provides that their degree of specificity and level of detail must reflect local conditions and circumstances. The Plan elements have therefore been arranged in three element groups, as shown in Figure PRE-2. The order in which these groups are presented in Part Two of the Plan does not reflect their priority, but rather a logical sequence of information presentation and policy formulation. The introduction to each Plan element specifically relates it to state planning law.

FIGURE PRE-2
Countywide General Plan Elements



THE GENERAL PLAN
AND THE
REGULATORY
SYSTEM

California law provides local governments with a variety of regulatory mechanisms and administrative procedures for implementing general plans. These implementation tools must be based on policies contained in the plan. Provisions of state planning law requiring consistency between the general plan and its implementation programs are briefly described below.

Zoning Regulations

Section 65860¹ requires that the County's zoning ordinance be consistent with its general plan. Consistency may be achieved only if the County has adopted a general plan and the various land uses authorized by the zoning ordinance are compatible with the objectives, policies, general land uses and programs specified in such a plan. This section also requires that when the General Plan is amended, the zoning ordinance must likewise be amended as is necessary to maintain consistency with the plan.

Section 65566 requires that any zoning action by the County which acquires, restricts or regulates the use of open-space land or any interest in such land must be consistent with the County's open space plan. Closely related is Section 65567 which requires that the County's open space zoning ordinance, the adoption of which is mandated by Section 65910, also be consistent with the open space plan. Section 65911 specifies an additional criterion to be applied in granting variances from the terms of an open space zoning ordinance.

Section 65853 requires that the planning commission provide the Board of Supervisors with a written recommendation on a proposed zoning ordinance and all amendments of an existing ordinance. As required by Section 65855, this recommendation must include discussion of the relationship of the proposed ordinance or amendment to the general plan.

State law has not yet addressed the issue of consistency between the general plan and the various discretionary land use entitlements available under the zoning ordinance, i.e., variance, use permit, planned unit development, design review, etc. The one court decision (Hawkins v. County of Marin (1976) 54 C.A.3d 586) which could offer some guidance in this area is subject to differing interpretations. Reflecting on the overall intent of consistency between the General Plan and the zoning ordinance, sound planning practice would argue that the granting of these entitlements should be based on a finding of consistency with the plan.

Subdivision Regulations

Section 66473.5 provides that the County shall not approve a proposed subdivision map unless it finds that said subdivision, including its design and proposed improvements, is consistent with the General Plan. In a manner similar to zoning regulations, consistency may be found only when the County has adopted a plan and the proposed subdivision is compatible with the objectives, policies, general land uses, and programs specified in the plan. It is

¹Unless otherwise indicated all references are to the Government Code.

important to note that this requirement applies to subdivisions for which parcel, as well as tentative and final maps, are required.

Section 66474 is the converse of Section 66473.5, but it applies only to the approval of tentative and final maps. This section states that the County shall deny approval of such maps if it finds that the proposed map, or the design or improvement of the proposed subdivision shown on the map, is not consistent with the General Plan.

Although somewhat confusing as stated in the law, the two above sections also apply to condominiums, community apartment projects or stock cooperatives which must submit tentative and final maps (see Section 66426). Unless the General Plan contains definite objectives and policies specifically directed at the conversion of existing buildings into condominium projects or stock cooperatives, these two sections, 66473.5 and 66474, do not apply to such conversions (see Section 66427.2).

Section 65567 requires that a subdivision map may not be approved unless it is consistent with the open space plan.

The County may require the dedication of land, the payment of in lieu fees, or some combination of the two, for park or recreational purposes as a condition of the approval of a final or parcel map, but only if the General Plan contains a recreational element and the dedicated facilities conform to definite principles and standards contained in the element (see Section 66477(d)).

Finally, the County may require the reservation of land within a subdivision for parks, recreational facilities, fire stations, libraries, or other public uses, provided such requirements are based on appropriate general plan elements (see Section 66479).

Capital Improvements

Section 65401 authorizes the Board of Supervisors to require the preparation and submission by County officials and agencies of lists of all public works projects recommended by them for study or construction during each ensuing year. This requirement also applies to special and school districts whose jurisdictions lie wholly or partially within the County. Upon submission, such lists must be integrated by the County into a coordinated program which must be submitted to the planning commission for review as to its conformity with the General Plan.

Section 65402 requires review by the planning commission as to conformity with applicable elements of the General Plan of:

- acquisition of lands for public purposes
- disposition of lands
- street vacations
- authorization or construction of public buildings or structures.

Environmental Impact Procedures

Section 15080(c) of the State EIR Guidelines requires that the initial study of a project consider whether it is compatible with the General Plan. A recent amendment of the Guidelines has added subsection 15142(b) which provides that an EIR must discuss any inconsistencies between the proposed project and the General Plan. Appendix G(a) of the Guidelines states that a project will normally be found to have a significant effect on the environment if it will conflict "with adopted environmental plans and goals of the community where it is located."

Building and Housing Codes

Section 65567 provides that building permits must be consistent with the open space plan.

The State Housing Law (Health and Safety Code Sections 17910 et seq.) requires the County to adopt regulations imposing substantially the same standards as those contained in various uniform industry codes. This law also imposes special standards, which may be more burdensome than the uniform industry codes, designed to protect against certain types of hazards (fire, noise, earthquakes, unstable soils) and to achieve certain resource goals (energy conservation). The County may adopt regulations and standards at variance from those mandated by the State Housing Law if justified by local conditions. Although not explicitly required by the State Housing Law, the General Plan is an especially appropriate vehicle for documenting such local conditions and specifying the necessary regulatory response in order to justify variances from state law.

Other Consistency Requirements

Listed below in capsule form are other consistency requirements contained in state law which at some future date may apply to Shasta County:

- Health and Safety Code (HSC) Section 33331, consistency between General Plan and redevelopment plan.
- HSC Section 34326, consistency between General Plan and housing projects.
- HSC 34711, consistency between General Plan and housing for developmentally disabled, mentally disordered, and physically disabled.
- Streets and Highway Code Section 32503, consistency between General Plan and parking facilities.

ORGANIZATION AND USE

The General Plan is organized into three parts. Part One - Preface is designed to serve as a summary of the Plan and may be distributed separately for this purpose. This part contains three sections - Introduction, Framework for Planning, and The General Plan Concept. Included in this concept section are the Plan objectives, an overview of the General Plan concepts, and diagrams illustrating these concepts.

Part Two of the Plan contains the General Plan elements which are universally applicable throughout the County. When appropriate, these elements are divided on a planning area basis. As illustrated in Figure PRE-2, the Countywide Elements are organized into three groups - Public Safety, Resources, and Community Development.

Part Three of the Plan contains plans for the communities of Shasta County. The communities are characterized as urban centers, rural centers, and rural community centers. The plan for each community addresses relevant aspects of the Countywide Elements presented in Part Two.

Key Terms

The General Plan consists of text and maps. Certain key terms are used repeatedly throughout the text and their understanding is

required in order to use the Plan. These key terms are described below.

A **goal** is a broad, generalized expression of commonly held community values. Since a goal is broadly stated, disagreement regarding it tends to be uncommon. **Objectives** are similar to goals and frequently the two terms are used interchangeably. As used in the General Plan, however, an objective is a more narrowly drawn and concrete expression of community intent. One goal may imply two or more objectives, each responsive to a particular aspect of a more broadly stated goal. For example, a community goal might be "Protection of natural resources." A related objective could be "Prevention of erosion which leads to loss of soils, degradation of water quality, and destruction of wildlife habitats." Other objectives related to this goal might address air quality, nonrenewable energy sources, prime agricultural lands, etc.

A **planning issue** is recognition of current or projected conditions which are at variance with community objectives. Thus, issues reflect community objectives, and by examining planning issues we can more fully identify and understand the objectives actually held by a community. For example, if unnecessary preemption of prime agricultural land by housing is seen as an issue, this implies certain natural resource and economic objectives. In the General Plan, the discussion of planning issues occurs under the heading of "Findings" which is included within each Plan element.

A **policy** is a fairly precise statement of how public regulatory powers and fiscal resources will be exercised and allocated over time to achieve a specific objective. Policies may be expressed in text, maps, diagrams, or some combination thereof. Since they are tangible, they often can be quantitatively measured. It is important to note that some policies are more specific than others. Examples of policies relating to the previous examples of goal and objective include, "Construction practices shall provide for the impoundment of storm waters and removal of sediment prior to discharge into creeks," and "Development shall not be permitted on highly erosive soils when slopes exceed 15%" (or some other specified limit).

The policies contained in the Plan are expressed in terms of "**shall**" or "**should**". There is an important distinction between these two terms. As used in the Plan, "shall" indicates an unequivocal commitment, while "should" indicates a slightly less rigorous commitment to be followed in the absence of compelling, countervailing factors specified in the General Plan.

The final link in the chain running from an objective to its physical realization is provided by **implementation**. Although implementation is commonly spoken of in terms of programs implying a long-term effort, it may be of much shorter duration and simply referred to as a measure. In any event, implementation programs and measures are concerned with the specific actions necessary for accomplishment within a definite time period in order to execute or carry out policy. Examples of implementation programs include revision of grading ordinances or development of a land capability ordinance.

Plan Maps and Their Interpretation

In addition to text, the General Plan contains maps, of which there are two types - official and illustrative. Official maps show the geographic application of General Plan policies, while illustrative maps are merely visual aids for the reader. Only official maps shall be consulted to determine how Plan policies apply to geographic areas within the County.

To be of any value, official maps must be at a scale which facilitates their use and understanding. For this reason, Shasta County has been divided into ten planning areas, as shown in Figure PRE-3. With the exception of the South Central Region (SCR), each planning area uses as the base for its official maps a compilation of United States Geological Survey (USGS) 15 minute quadrangle maps, scale 1:62,500 (1" = approximately 1 mile). SCR uses as the base for its official maps compilation of USGS 7-1/2 minute quadrangle maps, scale 1:24,000 (1" = 2,000'). This 7-1/2 minute scale is also used as the base of official maps of the plans for town and rural community centers located in non-SCR planning areas. Almost all official plan maps use these scales and are appended to the General Plan in "pocket sections."

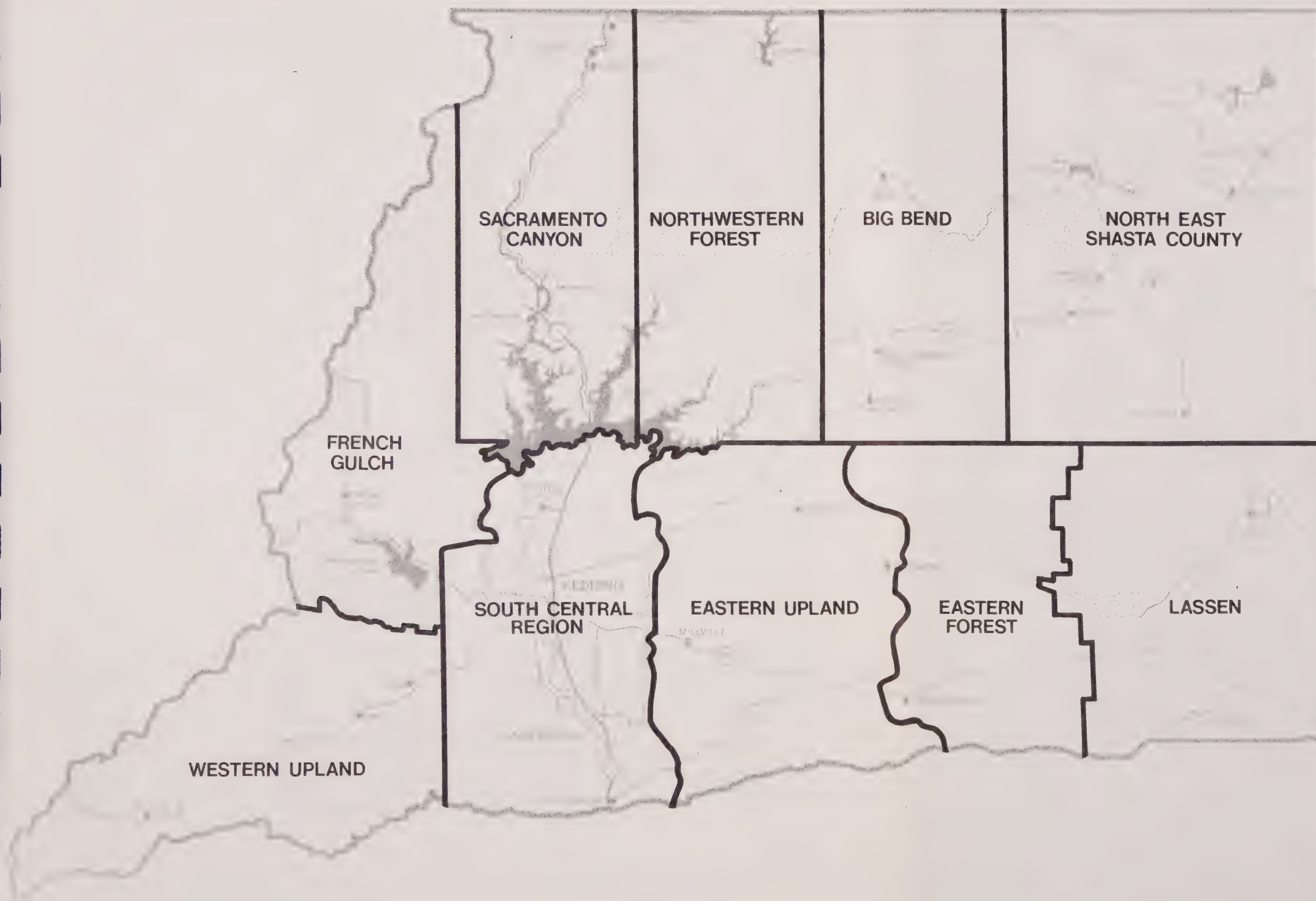
A limited number of official maps using much smaller scales are contained within the Plan text. The official status of these maps is indicated by their designation as "policy diagrams." All other maps in the text are illustrative only and shall not be used for policy interpretation purposes.

As noted above, the purpose of official General Plan maps is to show the geographic application of plan policies. Use of official Plan maps in this capacity must respect the limitations of General Plan maps with regard to precision and level of detail. (See the discussion in the preface distinguishing a general plan map from existing land use and zoning maps.) Past practice in Shasta County has been to directly translate General Plan land use map designations into land use regulations applicable to a specific parcel of property. Bypassing the necessary step of translating these land use designations into zoning or other regulatory districts with precise legal boundaries which are then applied to specific parcels has resulted in the need for lengthy and costly hearings to interpret the boundaries of General Plan land use maps. Before a General Plan map shall be given direct regulatory effect, it must be translated into a map, usually a zoning ordinance map, with precise, legally definable boundaries. The following guidelines are provided for this purpose.

The principal rule to be followed is one of common sense. Taking a comprehensive view of all relevant plan policies, the result must further the intent of these policies in a practical, workable, and sound manner. Unusual, awkward, and strained solutions are not intended by the plan and should be avoided.

As implied above, the starting point in translating a general plan map into a legally definable boundary is the plan itself. All pertinent policies, standards, and criteria should be thoroughly reviewed and understood. At times it may be necessary to review data maps used to prepare plan maps. Usually these maps are at the same scale and they can provide useful insights into the policy rationale for the plan boundary. Once reviewed, they should be applied to the plan map in question to determine how this map

FIGURE PRE-3
Planning Area Boundaries



expresses the relevant policies. Inspection of the plan map should determine when plan designations appear to follow physical boundaries, either natural or man-made, and non-physical, man-made boundaries, e.g. section lines, city limits. No attempt should be made to measure distances of areas on the plan map.

Next, account must be taken of existing physical conditions in the geographic area in question. Physical and non-physical boundaries noted on plan maps should be related to these boundaries as they actually exist. Field surveys may be necessary for this purpose. Once a definable and legally describable boundary has been preliminarily established, it should be compared with any other non-physical boundaries in the vicinity, such as property ownership lines, political entity boundaries, section lines, etc. Applying the common sense rule, impractical or unusual preliminary boundaries should be revised provided this is consistent with plan policies.

The most important guideline in the translation of plan boundaries into legally definable boundaries is that this will be best accomplished in the absence of the pressures resulting from the submission of a development application requiring an immediate boundary determination.

Use of the Plan by Officials and Citizens

The general plan is designed to be used by elected and appointed County officials on a daily basis in making decisions with direct or indirect land use implications. It is not designed for infrequent consultation and failure to use the plan will quickly cause it to become out of date and irrelevant.

County residents and property owners are expected to be major users of the plan. Members of these groups may choose to use the plan as it regards a particular geographic area or as it addresses a particular subject of interest to them. In either instance, the plan must be used comprehensively and plan objectives and policies must be viewed in the context provided by all other relevant objectives and policies. To assist the reader in taking this comprehensive approach, the plan elements are cross-referenced to each other and each element group contains an introduction explaining the relationship of its elements to those of the other groups.

It is especially important to note that a major function of the plan is to inform property owners of the policies applicable to their lands and the long-term implications of these policies. To this end, public access to and understanding of the plan is encouraged and the planning department will be available to the public to answer questions concerning the plan.

The Shasta County General Plan is designed to be used by officials and staff of other government agencies - federal, state, and local - and to provide a framework for interjurisdictional coordination of land use planning efforts.

Framework For Planning

The following discussion briefly outlines the framework for the development and utilization of the Shasta County General Plan. Four interlocking components form this framework. They are:

- the natural environment
- the man-made or built environment
- the institutional environment
- the potential for environmental change.

The term "framework for planning" is used here because these four elements define basic planning opportunities and constraints which must be addressed by the Shasta County General Plan. Understanding and intelligently responding to this planning framework is essential to the short and long-term success of the General Plan. The discussion below provides an introduction to the more detailed treatment of the components of this framework in the various plan elements, community plans, and technical appendices.

NATURAL ENVIRONMENT

The natural environment includes all factors in man's surroundings which are the product of natural as opposed to man-made forces and interactions. Major factors of the natural environment are:

- landforms
- water
- climate
- minerals
- soils
- vegetation
- wildlife.

These factors are fundamental to the planning framework because they define the limits within which the man-made and institutional environments must operate.

Landforms

Shasta County is situated where the Central Valley of California meets the convergence of the Klamath and Coastal Mountain Ranges to the northwest and west, with the Cascade Mountain Range to the northeast and east. Elevations in the Central Valley area of Shasta County range between 400 and 500 feet. The Cascade Range divides the Central or Sacramento Valley region of the County from the Modoc Plateau situated in its northeast corner. In the interest of using common nomenclature, the Modoc Plateau will be referred to as the Fall River Valley. Approximate elevation of this valley is 3,300 feet.

Water

The landforms of Shasta County and their underlying geology exert a major influence on its surface and groundwater resources. The Central Valley and its southward flowing Sacramento River provides the drainage for all the major streams in the County - Squaw, Clear,

Cow, Cottonwood, Battle, Clover, Bear, and Hat Creeks, and the Pit, Fall, and McCloud Rivers. Alluvium deposits in the Sacramento and Fall River Valleys define the only significant groundwater basins present in Shasta County, but there are also numerous larger "hard rock" groundwater basins of unknown productivity.

Climate

The landforms of Shasta County also play a role in determining its climate. The convergence of the mountains on either side of the Central Valley forms a funnel that concentrates precipitation near the upper end of the valley in periods of winter storms marked by south winds. The western mountains receive significant amounts of rain from air moving eastward off the Pacific, while the eastern mountains generally receive less precipitation. Temperature is closely related to elevation, with the warmest temperatures at lower levels. The length of the growing season also reflects this temperature pattern. Comparing the climates of the two major valley areas of the County, the Central or Sacramento Valley experiences a longer growing season and more rainfall than the Fall River Valley.

The two valley areas are located within different air basins: the Sacramento Valley Air Basin and the Northeast Plateau Air Basin. In the Sacramento Valley Basin, the potential for winter radiation inversions is high, resulting in extremely stable atmospheric conditions.

Minerals

Shasta County is extremely rich in mineral resources, including copper, gold, silver, zinc, sand and gravel, and diatomite. Most of the metallic ore lies in western Shasta County. Sand and gravel deposits are associated with the Sacramento River and its tributaries. The junction of the Pit River and Hat Creek in northeastern Shasta County is the location of diatomite deposits.

Soils

Landform, climate, and other factors determine soil characteristics. Soil surveys of Shasta County cover areas outside of the National Forests and use a standard classification system ranging from Class I, soils with few limitations, to Class VIII, soils with limitations precluding their use for commercial agricultural purposes. Of those areas of the County which have been surveyed, the overwhelming majority are Class III and above. Areas with Class I or II soils are located exclusively in the Sacramento and Fall River Valleys.

Vegetation

Landform, climate, soils and other factors are responsible for the natural vegetative cover of Shasta County. Coniferous forest is the predominant vegetation in the mountainous regions of the County, but in many areas this cover has been modified by man's activities. Extensive man-caused modification has also occurred in the Sacramento and Fall River Valleys. These areas are characterized by cultivated and pasture lands, oak woodlands, and grasslands. Twenty rare and endangered plant species are found throughout Shasta County.

Wildlife

The major wildlife resources of the County are deer, waterfowl and fish. Man's activities have also resulted in modifications in their

habitat areas and thus their geographic distribution throughout the County. Deer winter range areas are found outside the Sacramento and Fall River Valleys in the lower elevations of the mountain areas of the County. The Sacramento River and Clear, Cottonwood, and Battle Creeks are important salmon and steelhead areas. The Fall and Sacramento Rivers are major waterfowl habitat areas. There are three endangered and five rare animal species known to inhabit Shasta County.

MAN-MADE ENVIRONMENT

The man-made or built environment is defined as physical modifications of the natural environment caused by man. Major factors of the man-made environment are:

- urban/suburban areas
- transportation network
- water impoundments
- cultivated areas.

Urbanized Areas

As is to be expected, the areas of Shasta County which are the locations of urban/suburban development correspond closely with the natural factors of landform, water, climate and soils. Urbanization and its associated suburban development has occurred in the Sacramento, Fall River, and Burney Valleys where the level topography and soil conditions allow the relatively easy construction of residential, commercial, industrial, and other urban structures and their street circulations systems; surface and groundwater are available for urban water supply systems; and climatic, soil, and surface water conditions permit the construction of some type of urban wastewater treatment system. Approximately 83 percent of the County's population lives in the Sacramento Valley area of the County in a north-south band of urban/suburban communities, including the Shasta Dam Area (Central Valley, Toyon, Summit City, Project City, and Pine Grove), the incorporated cities of Redding and Anderson, and the unincorporated community of Cottonwood. Around this urban/suburban band are several smaller communities including Mountain Gate, Jones Valley, Bella Vista, Palo Cedro, Happy Valley, Centerville, and Shasta/Keswick. Approximately 7 percent of the County lives in unincorporated urban/suburban and rural communities in the Fall River Valley and the surrounding region. These communities are Burney/Johnson Park, Fall River Mills/McArthur, Cassel, and Hat Creek.

Combined, these two areas of the County account for 90 percent of its population and represent major public and private investments in the facilities and services required by urban development. As noted above, this existing pattern of urban/suburban development directly responds to factors of the natural environment, and these factors will continue to exert a dominant influence over the future pattern of development.

Transportation Network

The major element of the transportation network of Shasta County is the north-south transportation corridor through the Sacramento Valley. Contained within this corridor are Interstate 5, the Southern Pacific Railroad, Redding Municipal Airport, hydroelectric power transmission lines, and the Sacramento River, an important

transportation component of the Federal Central Valley Project. It must be noted that this corridor is a link in a much larger corridor running the entire length of the west coast of the United States and connecting many metropolitan areas in California, Oregon, and Washington. The significance of this observation is that events occurring in these other areas will be transmitted via this north-south corridor and will inevitably affect Shasta County in general and its Sacramento Valley area in particular.

The other major elements of the transportation network are State Highway 299 connecting the Sacramento and Fall River Valleys; State Highway 44 connecting the Sacramento Valley with Lassen Volcanic National Park; and State Highway 89 which links the Park with the Fall River Valley. In general, this transportation network does and will continue to reflect factors in the natural environment, most directly topography and climate.

Water Improvements

Many of the surface water resources of Shasta County have been impounded by man for a variety of purposes, including flood control, power generation, domestic and agricultural water supply, and recreation. The dominant natural factors here are surface water and topography. Major improvements and associated facilities are Shasta Lake, Whiskeytown Lake, the ACID Diversion Dam and Channel, Keswick Lake, the Pit River Dams, and Big Lake. There are approximately 325 smaller reservoirs throughout the County.

Cultivated Areas

Cultivated areas of the County are defined as areas where man has altered the natural environment to produce food, fiber, and building materials. Here the relationship between the natural factors of landform, climate, water, soils, and vegetation and the man-made environment is direct. Cropland areas of the County are generally limited to the Sacramento and Fall River Valley areas and to the irrigated meadows of the Cascade Range. The Western and Eastern Upland areas located on either side of the Sacramento Valley are grazing areas. Timber harvesting is concentrated in the mountain areas.

Interaction of Natural and Man-Made Environments

The physical interactions between factors of the natural and man-made environments provide the dynamics of the planning process. In order for this process to result in a successful plan, the nature of these interactions must be understood. Failure to achieve this understanding and to apply it to the planning process could result in a plan which is costly to implement, both in private or public costs, creates an undesirable living environment, or both. It is the institutional environment of Shasta County, discussed below, which provides the context for reaching decisions concerning these relationships.

INSTITUTIONAL ENVIRONMENT

The factors of the institutional environment may be categorized as:

- social
- economic
- governmental.

The following discussion of these categories focuses on the role of the institutions as mechanisms for formulating and expressing values regarding the use of the natural environment through the development of the man-made environment

Social

The primary social factors of Shasta County are the family, the community organization, the school, and the religious group. Frequently, various elements of these institutions overlap and their order of importance will vary from individual to individual. The essential point is that these institutions reflect fundamental social values which find expression in the types of communities and lifestyles desired by County residents. These desires have significant land use implications. It is also worth noting that these desires will vary from person to person according to age, income, date, and place of residence in the County, and other factors.

Economic

The most significant fact about the economy of Shasta County is that it is based on the natural environment. Forest product harvesting and manufacturing, agriculture, and tourism are the major industries of the County. An industry which is infrequently cited in the literature, but which is also based on the natural environment and is of major consequence, is the division of raw or undeveloped land into lots for subsequent sale. Given their dependence on the natural environment, each of these industries has a vested interest in its future. A key distinction, however, is that forestry, agriculture and tourism use the natural environment as a renewable resource, while the land division industry treats the natural environment as a consumable resource. This distinction also has critical land use implications.

Governmental

The institution of government provides a mechanism for resolving competing interests regarding the use of the natural environment. In Shasta County, government operates at three levels - local, state, and federal.

At the local government level, the key actors are Shasta County and the incorporated cities of Anderson and Redding. These are general, as opposed to special, purpose local governments and they have direct legal authority over the planning and regulation of the use of lands within their jurisdiction. To an important degree, the planning and regulatory actions of the County and the two cities are dependent on the activities of special purpose local government agencies which indirectly affect land use decisions through the provision of services, such as water, sewer, or streets.

The state government operates at two different levels in Shasta County. One level is the exercise of direct control over lands it owns within the County, such as parks, wilderness areas, and other recreational facilities.¹ The other, more significant level operates through various state agencies concerned with transportation

¹By virtue of "supremacy" clauses of state and national constitutions, lands owned by state and federal agencies are not governed by local land use conditions.

planning, air and water quality, solid waste management, water resources, fish and game resources, and, of course, the preparation and adoption of local general plans.

The federal government is a major landowner in Shasta County and lands owned by the federal government make major contributions to the agricultural, forest, and tourist industries. Therefore, federal policy regarding these lands has implications for the economy of the County.

Interaction of Natural, Man-Made, and Institutional Environments

As noted in the introduction to this section, the natural, man-made, and institutional environments define the overall framework within which the Shasta County General Plan must operate. The natural and man-made environments, as defined here, are concerned with the physical pattern of land use as the result of the interaction of natural and man-made factors. The institutional environment assigns values to these factors and provides a process for their concrete application in defining and achieving a desirable land use pattern. However, these environments are not static and will change over time.

POTENTIAL FOR ENVIRONMENTAL CHANGE

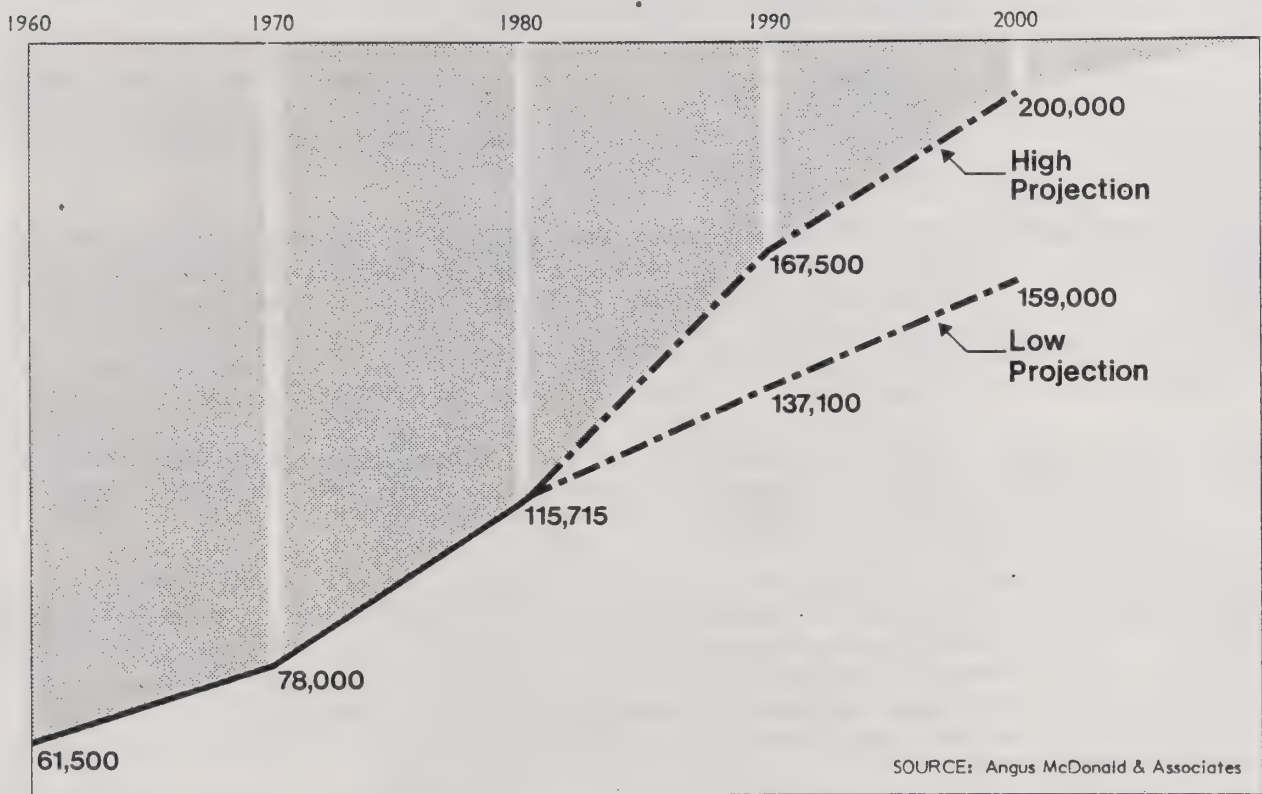
The planning framework for Shasta County can and will change in response to changes in its constituent natural, man-made, and institutional environments. Some of these changes will be short term, others long-term; some will be caused by internal events, others by external events. The following discussion briefly explores the potential for environmental change and its planning implications.

Population Growth

There is no question that the population of Shasta County will increase; the issue is by how much and at what rate. Resolution of this issue will depend on many factors which do not lend themselves to prediction. For example, will retired persons continue to migrate to Shasta County and will the County continue to provide a refuge to families seeking to escape metropolitan areas and their attendant problems? If these and other trends continue, the population growth rate in the County will remain high. On the other hand, it may be that the growth rate will level off over the next two decades. Given these alternatives, it is possible to construct two population projections for Shasta County, as shown in Figure PRE-4. The technical basis for these projections is described in Appendix A.

The land use implications of population growth are obvious ones; more people means that undeveloped lands will need to be developed to provide sites for housing, employment, and public services. To ensure that too much rather than too little land will be made available for these purposes, the Plan is based on the higher population projection. But, as will be repeated many times throughout the Plan, actual population growth may fall off short or exceed this projection. Accordingly the Plan incorporates a mechanism, described in the introduction to Part One, for periodically reviewing and adjusting the Plan in response to actual growth.

FIGURE PRE-4
Actual and Projected Population Growth Shasta County



Economic Growth in I-5 Corridor

By assuming the higher population growth rate, the Plan implicitly assumes the expansion of the local economy to accommodate this growth. Most of this growth will occur adjacent to the interstate transportation corridor in the Sacramento Valley region of Shasta County. This corridor offers rail, air, and highway transportation access to major market areas; has, or potentially has, ample land, water supply, and wastewater disposal resources; could accommodate substantial housing growth; and is located in an attractive environment. Economic growth within this corridor during the next twenty years could likely exceed the assumed level and result in a much higher population growth. Policies contained in the Economic Development Element of the Plan may trigger such growth.

Economic and population growth within this corridor should be closely monitored so the Plan will be able to adapt to the realization of this potential.

Elevation of Shasta Dam

Increasing the height of Shasta Dam by 100 to 400 feet have been the subject of much discussion at the federal, state and local levels. If this were to occur, it would have short and long-term land use implications. Short-term implications would include an economic "boom" similar to that which occurred when the dam was constructed during the 1930's. Shasta County is still experiencing some of the adverse impacts of this boom period, such as deteriorating project housing and inadequate circulation in the Central Valley area. Without careful planning, such as is being done in the oil shale extraction regions of the Rocky Mountain states, the short-term impacts of this project on Central Valley and the entire Sacramento Valley region could be adverse.

Depending on the actual height to which the dam would be raised, the communities of Lakeshore and Lakehead, as well as Interstate 5 and the Southern Pacific Railroad, may need to be relocated. These relocations would have substantial long-range land use implications both for the areas now occupied by these man-made features and their relocation areas. Again careful planning would be required to avoid adverse impacts.

Construction of Dutch Gulch Reservoir

The U.S. Army Corps of Engineers has proposed the construction of a multi-use reservoir along Cottonwood Creek. The breast of the proposed dam would run in a north-south 3-1/2 mile arc located approximately 1-1/2 miles east of the intersection of Gas Point and Ridge Roads. Most of the area which would be flooded by the construction of the dam is now used for grazing.

This project would have major growth inducing impacts on the community of Cottonwood, located at the primary I-5 tourist access point to a recreation facility of statewide significance, and the Gas Point Road area. Growth inducing impacts would also be experienced in those areas directly adjacent to the inundation area. The appropriate use of such lands would pose major planning issues.

Revitalization of Mineral Extraction

From the origins of Shasta County until the end of World War I, mining was the major industry of Shasta County. Major reasons for the decline of mineral extraction were changes in the international economics of this industry and litigation resulting from adverse environmental impacts. Changes in the world economy and the

development of new technologies designed to mitigate these impacts present the possibility for a revival of the mineral extraction industry. The General Plan should be aware of this potential and capable of responding to its land use implications.'

Development of Energy Resources

Shasta County has experienced significant development of its hydroelectric energy resources and this development has played a major role in shaping the existing land use pattern of the County. The potential of other energy resources in the County, including natural gas, oil, geothermal, and low-head or small-scale hydroelectric, is being actively explored by major energy companies. Most of these exploration programs are of a proprietary nature and detailed information is generally unavailable. These activities have prompted some local observers to suggest that Redding has the potential to become an energy exporting center of national consequence. Development of the renewable and nonrenewable energy resources of Shasta County at this level would have a major impact on the County's economic and development pattern.

Auto Travel and Tourism

The tourist industry of Shasta County is dependent on the automobile to bring people to its recreation resources. It is difficult to forecast both the cost and availability of gasoline over the long term and how changes in these areas would impact recreational travel by auto. The planning implication here is that a decline in the tourist industry would require expansion of other areas of the County's economy and accompanying land use commitments.

GENERAL PLAN AS A RESPONSE TO CHANGE

The previous discussion of the planning framework of the General Plan concluded with a brief discussion of how this framework could change over time. The purpose of this discussion was to identify factors or subjects which currently appear to pose the greatest potential for changing this framework. Over time some of these factors should be deleted from this list and others added. Sight must not be lost of the fact that the General Plan offers a means of anticipating changes before they occur and responding to them in a way which minimizes their adverse impacts and enhances their benefits. While the alternative of responding to change after it occurs is available, experience in Shasta County and elsewhere demonstrates that this is not a desirable alternative.

The General Plan Concept

This chapter contains two sections. The first presents the objectives which provide the basis for the various Plan elements. The second section, description of the Plan Concept, describes the major ideas or proposals implicit in these objectives when they are viewed comprehensively.

OBJECTIVES

The objectives of the General Plan are statements of community values regarding the future growth, development, and quality of life available in Shasta County. Inclusion of these objectives in the Plan and the adoption of the Plan by the Board of Supervisors represents a commitment to the use of these objectives to guide future land use and land use related decisions in Shasta County. The Plan recognizes, however, that community values may change over time in response to events within and outside Shasta County. Accordingly, the Plan incorporates a mechanism for the periodic review, evaluation, and, if appropriate, revision of these objectives. The availability of this opportunity for future revision of the objectives should not lose sight of the long-term commitment implicit in the Plan objectives.

The objectives of the General Plan were formulated through a broad based citizen participation effort representative of the wide range of perspectives and interests present in the County. A questionnaire and group discussion of planning issues was used to develop a preliminary statement of objectives which was reviewed by the citizen group and revised in response to comments.

The planning objectives described below provide the foundation for the overall concept of the General Plan which is described in this chapter. These objectives also provide the basis for the policies and implementation programs described in other chapters. The objectives are grouped below according to the three major element groups of the Plan. These groups are: Public Safety, Resources, and Community Development. It is important to recognize that these groups are somewhat artificial and are used primarily to facilitate understanding. All of the objectives are closely interrelated and these relationships require that they be applied comprehensively in making planning decisions.

Public Safety

Seismic and Geologic Hazards (SG)

- SG-1 Protection of all development from seismic hazards by developing standards for the location of development relative to these hazards; and protection of essential or critical structures, such as schools, public meeting facilities, emergency services, and high-rise structures, by developing more stringent standards.
- SG-2 Protection of development on unstable slopes by developing standards for the location of development relative to these hazards.

- SG-3 Protection of development from other geologic hazards, such as volcanoes, erosion, and expansive soils.

Flood Protection (FL)

- FL-1 Protection of development, both on-site and downstream, from flooding through floodplain management which regulates the types of land use which may locate in the floodplain, prescribes construction designs for floodplain development, and requires mitigation measures for development which would impact the floodplain by increasing runoff quantities.

Dam Inundation (DI)

- DI-1 Reduction of damage to life and property from dam inundation by developing emergency preparedness plans; and protection of essential or critical new structures by excluding them from locating in dam inundation areas.

Fire Safety and Sheriff Protection (FS)

- FS-1 Protect development from wildland fires by requiring development to incorporate design measures responsive to the degree of risk from this hazard and by encouraging development to locate in moderate hazard areas.
- FS-2 Encourage new development in areas already served by fire and sheriff protection services so that existing services may be extended, thereby avoiding the substantially higher costs of establishing new services.
- FS-3 Protection of life and property from crime by encouraging physical design of new development to establish a sense of community identity and to incorporate defensible space design techniques.

Noise (N)

- N-1 Protection of existing quiet areas of the County by regulation of new noise-generating development locating in these areas.
- N-2 Protection of noise sensitive new development from existing and future noise generators by regulations encouraging each to locate within compatible noise environments.
- N-3 Protection of established noise generating development from noise sensitive new development.

Hazardous Materials (HM)

- HM-1 Protection of life and property from contact with hazardous materials through site design and land use regulations, and storage and transportation standards.

- HM-2 Protection of life and property from the accidental release of hazardous materials through emergency preparedness planning.

Resources

Agricultural Lands (AG)

- AG-1 Preservation of agricultural lands of a scale capable of supporting full-time agricultural operations in order to allow the continuation of such uses and to provide opportunities for the future expansion and establishment of such uses.
- AG-2 Preservation of agricultural lands of a scale capable of supporting part-time, but not full-time, agricultural operations in order to allow the continuation of such uses and to provide opportunities for the future expansion and establishment of such uses.
- AG-3 Recognition by Shasta County residents that the preservation of agricultural lands for agricultural uses, both large and small scale, is in the public interest because it preserves local and regional food supplies and is an important contributing industry to the Shasta County economy.
- AG-4 Recognition by Shasta County residents that preservation of agricultural lands, both large and small-scale, provides privately maintained open-space, facilitates a rural life-style, and requires community understanding of the problems facing ranchers and farmers.
- AG-5 Protection of agricultural lands from development pressures caused by the provision of sewer, water, roads, and other public services, through the enactment of land use regulations consistent with this objective.
- AG-6 Protection of water resources and supply systems used for agriculture.

Timber Lands (T)

- T-1 Preservation of timberlands suitable for commercial timbering operations, in order to allow for the continuation of such uses and to provide opportunities for the future establishment of such uses.
- T-2 Protection of timberlands from adjacent land uses which are incompatible with timber growing and harvesting activities.
- T-3 The County shall seek to make optimum use of its timber resources in order to maintain a continuous supply of forest products.

Minerals (M)

- M-1 Designation in the General Plan by maps and policies of areas containing mineral resources which in some instances require protection from land uses which would preempt their exploration and extraction.

Energy (E)

- E-1 More efficient utilization of the County's nonrenewable energy resources.
- E-2 Increased utilization of the County's renewable resource base, including passive and active solar, wind, small-scale hydroelectric power, biomass, and geothermal.
- E-3 Conservation of nonrenewable energy resources, specifically raw materials, transportation fuels, and land area, through the recovery and recycling of solid waste materials.

Air and Air Quality (A)

- A-1 Recognition of the quality of the airshed of Shasta County as an important aesthetic and health resource which is affected by local land use decisions.
- A-2 Recognition of the primary role of air quality in the preservation of scenic resources.
- A-3 Designation by the State Air Resources Board as an "attainment area" for ozone and total suspended particulates.
- A-4 Protection of the air resources so that all County residents, both now and in the future, can enjoy the health benefits of clean air.
- A-5 Establishment of a Countywide air quality monitoring capability.
- A-6 Recognition that temporary, geographical-specific degradations of air quality are required by range and timber management practices.

Water and Water Quality (W)

- W-1 Recognition of the groundwater supplies of Shasta County as a resource which is readily available only in certain parts of the County.
- W-2 Achievement of a better and more complete understanding of the groundwater resources and groundwater management needs of Shasta County.

- W-3 Recognition of the surface water supplies of Shasta County as scarce resources of state and national significance to which the County shall maintain maximum access to preserve options for future County growth and development.
- W-4 Water conservation through the implementation of measures which result in the more efficient use of water.
- W-5 Protection of the surface and groundwater resources so that all County residents, both now and in the future, are guaranteed an adequate quantity and quality of water.

Fish and Wildlife Habitat (FW)

- FW-1 Protection of significant fish, wildlife and vegetation resources, including deer winter ranges, fish spawning areas, and Bald Eagles nesting and foraging areas, rare, endangered or sensitive wildlife habitat zones, and natural areas and important plant communities.
- FW-2 Protection of significant watercourses and their associated riparian habitats.
- FW-3 Recognition that wildlife habitat and agricultural and timber management practices may on occasion be in conflict and shall be resolved according to policies specified in the Plan.
- FW-4 Recognition that protection of wildlife habitat objectives may on occasion require limitations on public access to the protected habitats.

Scenic Highways (SH)

- SH-1 Protection of the natural scenery along the highways of Shasta County from new development which would diminish the aesthetic value of the scenic corridor.
- SH-2 New development along scenic corridors shall be designed to relate to the dominant character of the corridor (natural or natural and man-made contrast) or of a particular segment of the corridor. Relationships shall be achieved in part through regulations concerning building form, site location, and density of new development.
- SH-3 Recognition that the management practices of agriculture, timber, and other resource-based industries, which may cause degradation of the visual quality of the scenic corridor, are necessary and their impacts temporary.
- SH-4 Encourage coordination of scenic highways planning with County, state, and national parks departments; trail planning groups; and other recreational interest groups.

Open Space and Recreation (OSR)

OSR-1 Protection of the open space and recreation resources of Shasta County for the use and enjoyment by County residents both now and in the future.

OSR-2 Provision of public access to open space and recreation resources consistent with the need to protect these resources and the rights of private property owners.

OSR-3 Recognition and utilization of riparian corridors, utility lines and floodplains as recreation resources available in Shasta County.

Heritage Resources (HER)

HER-1 Protection of significant resources which relate to the early habitation of Shasta County by Native Americans and by later settlers so that these resources may be appreciated and studied and provide a historical context for future generations of Shasta County residents.

HER-2 Protection of significant resources which relate to the geologic development of Shasta County so that this development may continue to be explored and more fully understood.

Community Development

Community Organization and Development Pattern (CO)

CO-1 To promote a development pattern which will accommodate, consistent with the other objectives of the Plan, the growth which will be experienced by Shasta County during the planning period (1981-2000), as such period is extended by future revisions of the Plan.

CO-2 To guide development within the County in a pattern that will provide opportunities for present and future county residents to enjoy the variety of living environments which currently exist within the County, including:

- Incorporated communities served by the full range of urban services.
- Unincorporated communities served by most but not all urban services.
- Unincorporated rural communities provided with very limited or no urban services.
- Rural homesites located outside of community centers on relatively large lots or in clustered developments surrounded by open space.

- CO-3 To guide development in a pattern that will respect the natural resource values of County lands and their dual contributions to the County's economic base, including tourism, and to the living environments enjoyed by County residents.
- CO-4 To guide development in a pattern that will minimize conflicts between adjacent land users.
- CO-5 To guide development in a pattern that will establish an acceptable balance between public facility and service costs and public revenues derived from new growth.
- CO-6 To fashion a development pattern whose implementation tools, such as zoning, subdivision, and other regulations, explicitly define a relationship between public and private expectations and responsibilities concerning land use that is based on the following principles:
- Public expectations shall recognize both the expectations of individual property owners to be able to use their lands as they desire, and the responsibility of government to provide a regulatory climate which does not frustrate reasonable private expectations.
 - Property owner expectations shall recognize public expectations that land be used in a responsible manner that does not adversely affect either adjacent property owners or the community values of the citizens of Shasta County.
 - A workable relationship between public and private land use expectations must be achieved in order for each to be well served.
 - Periodic review of the relationship between public and private land use expectations is necessary to reflect changing community values.
- CO-7 To recognize that the major economic resources for achieving the development pattern will come from the private sector rather than government, and that the General Plan, as the expression of community values, will guide the use of these resources.

Economic Development (ED)

- ED-1 Provision of a land development pattern, planning process, and regulatory atmosphere conducive to maintaining employment opportunities for County residents and fostering new economic development.
- ED-2 Development of a land use pattern which geographically relates jobs to housing so that distances travelled to work may be reduced and the employment opportunities available to County residents maximized.

- ED-3 Creation of opportunities for new businesses and industrial firms to locate within Urban, Town, and Rural Community centers, provided such opportunities are in keeping with the scale of these communities.
- ED-4 Protection and enhancement of recreation and scenic resources to safeguard and promote recreation-based employment.
- ED-5 Protection, enhancement, and increased utilization of the renewable resource base of Shasta County to:
- Maintain the employment opportunities provided by the agriculture and forest products manufacturing industries.
 - Develop new employment opportunities oriented around renewable energy resources.
 - Replace the use of imported, nonrenewable energy resources with locally available renewable energy resources.
- ED-6 Improvement of the transportation system (road, rail, and air) to facilitate economic development.
- ED-7 Designation of and protection from preemption by other land uses of locations especially well-suited for industrial development based on transportation access, availability of public services, proximity to compatible land uses, and size and configuration.

Housing (H)

- H-1 Construction of 2,000 units below market rate housing, rehabilitation of 1,240 units of substandard housing and provision of rental assistance on an annual basis to 400 households during the five year period 1982-1986.
- H-2 Provision of an adequate supply of land to accommodate the housing growth anticipated during the planning period.
- H-3 Development of a mix and range of housing opportunities designed to meet the needs of a diversity of County residents with respect to income, age (senior citizens), family circumstances, and physical capabilities.
- H-4 Location of housing in areas within the County served by public services and accessible to employment opportunities.
- H-5 Maintenance of the existing housing stock and the integrity of existing residential communities.
- H-6 Open housing for all persons, regardless of sex, race, ethnic origin, physical condition, income, or family size.

- H-7 Energy efficient housing in terms of structural design, siting with respect to climate and solar energy, and relationship to supporting infrastructure.

Circulation (C)

- C-1 Existing road capacity available within the County road system shall be used to serve future development prior to constructing new County maintained roads, unless construction of a new road will direct development into areas better suited for development than areas presently served by roads, and the existing road capacity shall be enhanced through operational improvements.
- C-2 Development of a land use pattern which directs the expenditure of public and private resources for road construction and maintenance to an appropriate level consistent with public safety, adequate circulation, and efficient use of land resources.
- C-3 Recognition of the private automobile as currently the primary means of personal transportation in Shasta County, combined with development of a land use pattern which mitigates the adverse air quality, noise, and energy consumption impacts of the automobile.
- C-4 Development of a land use pattern that will facilitate the future shift to a circulation system which is not primarily dependent on the private automobile.
- C-5 Provision for pedestrian and bicycle circulation as functional alternatives to the automobile in urban areas and provision of hiking/jogging, bicycling, and equestrian recreational trails for recreation purposes in both urban and non-urban areas.
- C-6 Formulation and adoption of circulation design and improvement standards that:
- uniformly apply on a Countywide basis according to development type (e.g., urban, rural) rather than according to location within or outside incorporated areas.
 - respond to public safety and health considerations, especially vehicle and pedestrian safety, emergency access, evacuation routes, and the existing noise environments of communities.
 - address all modes of transportation.
 - will not result in substantial deterioration of air quality.

Water Supply (WS)

- WS-1 Location of future development in areas where existing community water systems have unused capacity, where it is cost-effective to expand existing systems to serve development, where service districts providing new systems can be created on a cost-effective basis and where on-site inspections and field tests have established the long-term, cost-effective feasibility of on-site systems.
- WS-2 Development of a Countywide mechanism for managing the water resources of Shasta County so that local community desires regarding water service are respected, Countywide water supply options are shared on a Countywide Basis, and adequate supplies and quality of water are available to serve development projected for the planning period.
- WS-3 Water conservation in all new development through the use of measures which result in the more efficient use of water.
- WS-4 Achievement of an improved understanding of the ground-water resources of Shasta County.

Wastewater Treatment (WT)

- WT-1 Location of future development in areas where existing community wastewater treatment systems have unused capacity, where it is cost-effective to expand existing systems to serve development, where service districts providing new systems can be created on a cost-effective basis, and where on-site inspections and field tests have established the long-term, cost-effective feasibility of on-site systems.
- WT-2 Development of a comprehensive long-term wastewater treatment system within the SCR planning area, coordinated with community development objectives, and designed to provide this service in a manner making the most cost-effective use of public and private financial resources.
- WT-3 Achievement of an improved understanding of the opportunities and constraints governing the use of on-site wastewater treatment systems, both conventional and alternative, in Shasta County.

Solid Waste Disposal (SW)

- SW-1 Develop the Shasta County solid waste program in accordance with the adopted Solid Waste Plan.
- SW-2 Provide for septic tank disposal facilities in the vicinity of the Fall River Mills sewer treatment plant.

Schools, Libraries, and Community Recreation Facilities (SLR)

SLR-1 Development of a land use pattern which can be adequately served in a cost-effective manner with schools, libraries, and community recreation.

Community Design (CD)

CD-1 To foster and preserve a sense of distinctive identity among the diversity of urban, town, and rural communities of Shasta County.

CD-2 To promote harmonious relationships between urban, town, and rural communities and their surrounding natural environments.

CD-3 To promote physical relationships between communities and their heritage resources.

Community Development Implementation (CDI)

CDI-1 Recognition of planning as a comprehensive process that is derived from public policies clearly stated in the General Plan and includes the application of these policies to lands within the County through zoning, subdivision, and other regulations.

CDI-2 A General Plan which is both internally consistent among all its elements and which provides the policy basis for the zoning, subdivision, and other implementing ordinances.

CDI-3 Public trust and confidence that the General Plan, and its constituent objectives, policies, and standards, shall be faithfully adhered to and equitably applied to all land use matters.

CDI-4 Public assurance that the General Plan shall be applied in a manner that responds to local conditions and local concerns through the interpretation of its policies, but only within well-defined and understood limits intended to preserve the overall integrity of the plan.

CDI-5 A planning process that resists short-term pressures exerted by narrow interests to modify the General Plan, but is capable of thoughtfully responding to significantly changed conditions or shifts in community values.

CDI-6 Administration of the planning process which is characterized by:

- The efficient and expeditious handling of planning matters through the coordination of the various cognizant agencies of county government.

- Timely and decisive action on all planning matters.
- Adequate staff resources to support both current and continuing long-range planning.
- Timely notification of persons who will be affected by or who are interested in planning matters.

CDI-7 Formulation and operation of an institutional framework for coordinated planning, including review and action on planning matters, between federal, state, County, municipal, and special purpose government agencies in Shasta County.

CDI-8 A planning process which is accessible to all citizens of Shasta County, regardless of economic circumstances, place of residence, race, age, and sex.

CDI-9 A planning process that has the personnel and data resources to competently and objectively assess the impacts, including cumulative impacts, of planning matters.

CDI-10 A planning process which recognizes the continuing need for citizen review of the objectives, policies and standards contained in the General Plan.

DESCRIPTION OF THE PLAN CONCEPT

The previous section presented the objectives which form the basis of the General Plan. In comprehensively looking at these objectives, the relationships among them emerge in the form of major ideas or concepts. Many of these concepts can be expressed graphically as well as textually. This section of the Plan describes these major concepts and where possible uses maps or graphics to illustrate them. Taken as a whole, these concepts provide a summary or overview of what the Plan is attempting to accomplish and why. Subsequent chapters of the Plan present detailed policies relating to specific plan objectives.

There are four major ideas which provide the conceptual basis of the Plan. These concepts, which are discussed below, are:

- Growth accommodation as the means of preserving the quality of life, especially in rural areas.
- The geographic distribution and timing of growth and its relationship to public services.
- Recognition of the Plan as a decision-making tool requiring periodic review and revision.
- Growth accommodation among a variety of living environments.
- Interjurisdictional approach to planning issues.

Growth
Accommodation and
Quality of Life

The quality of life enjoyed by its residents is unquestionably the most distinguishing characteristic of Shasta County. Many terms are used to describe the nature of this quality of life, including rural living, small town atmosphere, country lifestyle, etc. Whatever terms are used, the fact remains that quality of life has and will continue to attract new residents to Shasta County. The irony of this situation is that the very attractiveness of this quality of life, if present trends are allowed to continue, could eventually lead to its destruction. It is difficult for many persons now living in Shasta County to understand this fact because it requires looking ahead 15-20 years, which is considerably beyond the time horizon of most individuals.

Strong evidence of the need to take a long-range view is the recent designation by the Bureau of Census of Shasta County as a Standard Metropolitan Statistical Area (SMSA). Until this time, it was accurate to say that the growth of the County was part of the national phenomenon of people seeking to escape metropolitan areas for rural communities and small towns. Now Shasta County has just passed the threshold of population growth necessary for it to become a metropolitan area. The fundamental question facing Shasta County is whether it will adopt a short-range view and allow present trends to continue taking it along the road to becoming a full-fledged metropolis, or whether it will look ahead and take the actions required to accommodate growth and preserve the present quality of life.

Over time, if present trends continue and more persons move to Shasta County seeking the quality of life it offers, problems will emerge in the areas of providing adequate water supplies and wastewater treatment facilities to rural homesites, the preservation of land resources sufficient to support the agriculture and timber industries, the ability of government to fund services adequate to ensure the public safety and welfare, the air and noise pollution and energy costs of an auto-dependent land use pattern, and the preservation of the scenic beauty of the County.

There are alternatives to the strategy of allowing present trends to continue. One strategy would be to strictly regulate land divisions and the amount of new residential construction. This approach has been used by some local governments to effectively control the growth of their communities. However, aside from constitutional issues, this approach results in inflated land values within the community, thereby excluding low and moderate income families and individuals, and some would argue it leads to economic stagnation. This approach is not followed by the General Plan.

An alternative strategy is one of growth accommodation. This strategy recognizes the growth a community will experience during a specified time period, typically twenty years, and plans that the land supply necessary to accommodate this growth will be available. At regular intervals during this time period, for example every five years, additional lands are added to the supply to ensure that at least a 15 year land supply is always available. The General Plan adopts this strategy of growth accommodation.

Growth accommodation in Shasta County is based on three facts. One, there exists within the County a land supply adequate to meet the amount of population and economic growth projected for

the period 1981-2000, but this land supply is not uniformly distributed throughout the County. Two, County government, through the Plan and implementing regulations, may direct growth to areas of the County where this land supply is available. Three, both the growth projections and the land supply inventory will require periodic review and revision over time to keep pace with changing conditions. Premises two and three form the basis of other major Plan concepts which are described below. Taken together, these concepts propose that by matching projected growth with the land supply inventory, growth over time may be accommodated while preserving the quality of life in Shasta County.

As noted above, growth accommodation requires action by County government to direct the geographic distribution and timing of growth. Discussion of this major plan concept follows.

Geographic Distribution and Timing of Growth

Growth may be accommodated and the quality of life may be preserved in Shasta County if County government, through the General Plan and its implementing regulations, directs growth to areas of the County where and when the land supply is available to accommodate growth. The idea of County government directing the geographic distribution and timing of growth is not a new one. The most rudimentary zoning ordinance and the ordinance amendment process accomplishes this. What is new is the concept that this direction be systematically provided in accordance with a set of objectives and policies openly arrived at and consciously applied over time. Aside from providing certainty in the land use regulatory process, this concept also allows government to program the expenditure of public funds to provide the public services and facilities required by growth in the most cost-effective manner.

The geographic growth pattern contained in the General Plan is based on the following factors:

- The historic pattern of growth which has resulted in approximately 90% of the population of the County residing in 2 of the 10 planning areas (South Central Region - 83%; North East Shasta - 7%).
- The location of existing and potential unused capacity in community water supply and wastewater treatment systems.
- A hierarchy of community organization encompassing urban, town, and rural community centers (discussed in detail in the section below).
- The location of agricultural and timber resources in the County.

Based on these factors, the General Plan recognizes the primary roles in accommodating new growth which will be assumed by the SCR and North East Shasta Planning Areas and their constituent Urban, Town, and Rural Community Centers. Specifically, the Plan programs a 20 year land supply in the SCR and North East Shasta areas sufficient to accommodate that portion of the projected 20 year population growth which will respectively give these areas 87% and 7% the County's population.

This 43% increase over SCR's current portion of the County's population reflects the fact that future major employment opportunities will locate in urban areas of Anderson and Redding and that the Rural Community Centers in SCR are all served by community water systems. This increase is also designed to relax the development pressures on areas of the County which contain agricultural and timber operations.

Assigning 87% of the 20 year land supply to SCR does not mean that new residents of the County will be forced to live in an urban area. Although some will prefer this type of environment, others will not. Therefore, the Plan provides that the Rural Community Centers in SCR will provide a significant share of the developable land supply to accommodate persons desiring to live in a rural environment.

The developable land supply programmed for the North East planning area represents neither an increase nor a decrease in the portion of the County's population it currently contains. This reflects the future wastewater treatment capacities of the area's two Town Centers, Burney/Johnson Park and Fall River Mills/McArthur, and the constraints placed on land supply by agricultural and timber operations.

In the other eight planning areas, the geographic distribution of growth orients the relatively smaller residential lots around Rural Community Centers and limits development outside of these centers to relatively larger lots. The intent here is to provide rural living opportunities in a pattern which minimizes their inherent conflicts with the agricultural and timber operations present in these areas and recognizes the constraints on water supply and wastewater treatment.

In addition to geographic distribution, the General Plan addresses the timing of growth, which has two aspects. One aspect is concerned with the monitoring of growth over time to ensure that the land supply inventory keeps pace with the rate of growth. The need for growth monitoring and its implications for the Plan are discussed below. The other equally important aspect of timing is concerned with the relationship of growth to public services. This relationship means that growth must be consistent with the provision of services, and that the level of services provided to an area be consistent with its long-range, as well as its short-range, development potential. The overall thrust of development timing is to achieve a growth pattern which is provided with services in the most cost effective manner.

It is important to note that the concept of growth accommodation through distribution and timing to preserve quality of life is a major concept which permeates the entire Plan. But this concept can only be understood on a Countywide basis. Viewed from the perspective of a particular subarea of the County, growth accommodation may appear to be growth limiting. This local perception may be the result of one or more local conditions, e.g., uncertain groundwater supply, proximity to agricultural operations, or inaccessibility, which make the area unsuited for major growth. This local perception should not obscure the fact that overall the Plan does not limit, but accommodates growth.

A strategy of growth accommodation will also mean that in some areas of the County the permitted uses of land may not be in accord with the expectations of property owners. Conversely, in other areas, these expectations may be exceeded. This unevenness is an unfortunate but inevitable consequence of balancing private interests to achieve the public health, safety, and welfare. As has been suggested above, a strategy of minimal public regulation of land use may be attractive in the short run, but over the long range it would guarantee the necessity of massive and costly government action to correct the problems caused by permitting growth to occur in areas of the County ill-suited to accommodate growth.

Since growth is not static and the future cannot be accurately predicted, a strategy of growth accommodation requires that both the growth projections and the land supply inventory be periodically reviewed and revised to respond and keep pace with changing conditions. This requirement relates the concept of growth accommodation to the third major Plan concept, which is discussed below.

The Plan is a Decision-Making Tool Requiring Periodic Review

The general plans of most local governments in California, including Shasta County, have in the past tended to be static documents prepared in response to State mandates and infrequently consulted once adopted by the County legislature. Addressing an uncertain time-frame, showing an ultimate "buildout" scenario, lacking in specificity and precision, and usually bearing little or no relationship to the zoning and subdivision ordinances, these Plans were largely ignored because they provided no guidelines for day-to-day decisions. As community needs changed over time, necessitating changes in the zoning regulations, the typical processes were zoning ordinance and general plan amendments initiated on an ad hoc basis and paid for by landowners/developers. Since the plan did not provide a clear policy framework for evaluating the proposed amendments, the amendment process tended to be lengthy and costly, both to the private and public sectors.

This General Plan differs sharply from the plans described above. It is designed to function as an integral part of the day-to-day land use decision-making process by providing a clear-cut policy foundation for all land use regulations and implementation mechanisms, including zoning and subdivision regulations, EIR procedures, and capital improvements programming. In order to function as a decision-making tool, the Plan incorporates several important features.

The General Plan will encompass a well-defined time period, which upon adoption will extend to the year 2000. One of the key elements of the Plan, which relates to its strategy of growth accommodation, is the provision of a land supply inventory to accommodate the population and economic growth projected for this period. However, this approximately 20 year horizon does not remain fixed. The Plan will be continuously monitored by the Advanced Planning Division of the Planning Department. This monitoring process will document how well the population and economic growth projections are holding up, where and at what rate the land supply inventory is being consumed, and related matters. The results of this monitoring process will be reported to the

Planning Commission and Board of Supervisors annually and minor adjustments proposed in the form of Plan amendments. Every five years, the Plan will be comprehensively evaluated and major amendments will be proposed as are appropriate. Some of these amendments will address additions to the land supply inventory in order to maintain at least a 20 year land supply. Other amendments may address significant changes in the Plan objectives.

The important point is that this General Plan, in order to function as a decision-making tool, must be responsive to change in its many forms, such as economic conditions, new technologies, and shifts in community values. Recognizing this fact, the Plan is expected to be amended to respond to change and contains mechanisms allowing changes to occur in a systematic manner. Further, these mechanisms shift the burden of Plan amendment to the public sector where it appropriately belongs. Rather than relying on the private sector to initiate and fund them, Plan amendments would be initiated by the Board of Supervisors in response to Planning Commission recommendations. These Commission recommendations would in turn be based on recommendations by the Advanced Planning Division, which would initiate its own recommendations and screen amendment requests submitted by County residents and property owners. Of course, a resident or property owner would always have the option of submitting an amendment request and funding its review and hearing before the Board of Supervisors.

Growth
Accommodation
Among a Variety of
Living Environments

The General Plan provides for three levels or types of communities within Shasta County. They are:

- Urban Centers
- Town Centers
- Rural Community Centers

These communities are shown in Figures PRE-5 and 5A.

In addition, the Plan recognizes the rural homesite which is located outside of a community.

Each type of community center and the category of rural home site reflects a different level of public service availability and response to the surrounding natural environment, and in so doing provides a unique and different living environment. As the past growth of Shasta County has demonstrated, each type of living environment is desired by persons now living or who will live in Shasta County in the future. A major concept of the Plan is to provide for each type of living environment. The characteristics of each type of living environment are discussed below.

Urban Centers

This type of community provides the full range of urban services within the boundary of an incorporated city. There are two Urban Centers in Shasta County: Anderson and Redding.

The services available within an Urban Center include community water supply and wastewater treatment, full-time police and fire protection, schools, public recreation facilities, emergency services, medical facilities, and cultural activities. The Urban

Center functions as a major employment and retail trade center, and it contains one or more major destination points in the transportation network.

Within an Urban Center, the man-made or built environment is the dominant theme. However, certain elements of the natural environment are potentially either visually or physically accessible and may be used to add variety and texture to the urban environment. These natural features include views of the surrounding mountains, especially Mt. Shasta and Mt. Lassen, riparian corridors such as exist along the Sacramento River and various creeks, and scenic variations in topography and vegetation.

In terms of the physical design of the immediate living environments of their residents, residential neighborhoods in Urban Centers contain predominantly single-family detached residences on lots from 80,000 down to 4,000 square feet (.5 to 11 dwellings units/net acre). This density range also provides for semi-attached or zero lot line single-family and attached or townhouse single-family units. Urban centers also provide for multifamily housing at densities not exceeding 16 dwelling units/acre, which would include 2 and 3 story garden apartments.

Overall residential living opportunities in an Urban Center would range from a single-family detached house located on a relatively large lot within a typical suburban neighborhood to an apartment or condominium unit. All urban neighborhoods would be served by paved streets with curbs, gutter, and sidewalks, underground utilities, street lights, neighborhood public parks, pedestrian and bicycle circulation, and possibly transit access facilities.

Town Centers

Town Centers share many of the same characteristics of Urban Centers. The primary distinction is that Town Centers are not incorporated areas. Although lacking status as an incorporated community, a Town Center has a strong identity as a community which is recognized by both its residents and other County residents. Shasta County contains four Town Centers: Central Valley, Cottonwood, Burney/Johnson Park, and Fall River Mills/McArthur.

The Town Center of Central Valley, as used in the General Plan, includes the communities of Central Valley, Pine Grove, Summit City, Project City and Toyon. In future revisions, the General Plan may recognize additional town centers.

Central Valley and Cottonwood are situated along the Interstate 5 transportation corridor which also serves Anderson and Redding. This transportation relationship is responsible for many other interrelationships among these Town and Urban Centers. In contrast, the Town Centers of Burney/Johnson Park and Fall River Mills/McArthur, located in the northeastern portion of the County along Route 299, are Town Centers which are not oriented to an Urban Center.

Public services in Town Centers are provided by County government and special or limited purpose districts. The level of services available in Town Centers is less than that available in Urban Centers, but the specific services which are or are not provided varies among the different Town centers. In general, Town

FIGURE PRE-5
Community Organization

- Town Center
- Rural Center
- Urban Center



National Recreation Area Boundary



Urban Center



Town Center



Rural Center

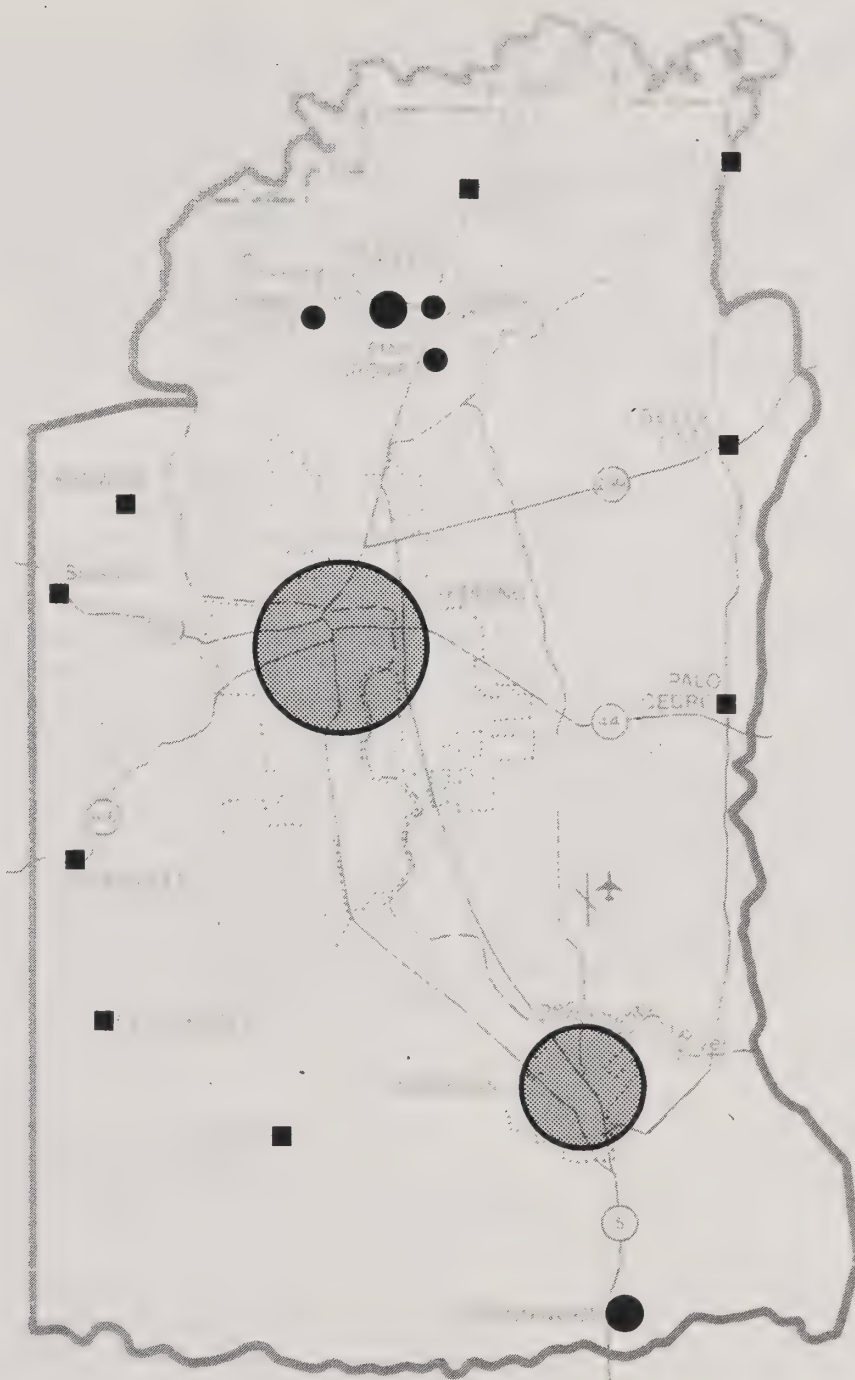


FIGURE PRE-5A
Community Organization

South Central Region

General Plan Revision Program: SHASTA COUNTY, CALIFORNIA

Centers provide community water, wastewater treatment, schools, sheriff and fire protection. Town Centers are secondary employment and retail trade centers.

Within a Town Center, the presence of the built or man-made environment is much less evident than in an Urban Center. The scale of the built environment is much lower and natural elements are prominent features of the landscape. Residential neighborhoods in town centers contain the same range and variety of housing types. Physical design standards for neighborhoods in both Urban and Town Centers would be similar, but the standards for Town Centers place greater emphasis on the incorporation of natural features.

Rural Community Centers

The Rural Community Center provides opportunities for persons desiring to live in an environment characterized by the following features. No or only some urban services are available, the population density as a function of total number of people per total acres of land (not a function of lot size) is lower than in Urban and Town Centers, access to the natural environment is a major element of daily life, and social relationships are based on relatively close ties with a relatively limited number of people. Rural Community Centers are characterized by a strong sense of identity, which in many instances has its origins in the early settlement of Shasta County. There are 26 Rural Community Centers in Shasta County. In future revisions, the General Plan may recognize additional centers, but all of the centers listed below are existing communities.

Shasta County is divided into ten planning areas and, with the exception of the Northwestern Forest area, each contains at least one Rural Community Center, as follows:

Sacramento Canyon

- Lakeshore
- Lakehead
- Castella/Sweetbriar
- South Dunsmuir

Big Bend

- Round Mountain
- Montgomery Creek
- Big Bend

North East Shasta

- Cassel
- Hat Creek

Lassen

- Old Station

Eastern Forest

- Shingletown

Eastern Upland

- Millville
- Oak Run
- Whitmore

South Central Region

- Mountain Gate
- Jones Valley
- Bella Vista
- Palo Cedro
- Happy Valley
- Centerville
- Shasta/Keswick

Western Upland

- Igo
- Ono
- Platina

French Gulch

- French Gulch

In Rural Community Centers, water is typically provided by on-site wells or surface diversions, and wastewater treatment by septic tanks. Important exceptions to this general rule are Rural Community Centers located in the South Central Region, all or part of which are served by community water systems. The availability of this service permits development at higher densities than will be possible in other Rural Community Centers because it eliminates dependence on uncertain groundwater supplies and the potential for contamination of groundwater by septic systems. This distinction between Rural Community Centers according to the availability of community water service plays a major role in the concept of Countywide distribution of growth.

Other services available within Rural Community Centers include schools, sheriff, and volunteer fire protection. Rural Centers typically provide commercial services to residents of the surrounding community and some centers also provide services to tourists. Commercial uses in Rural Community Centers are frequently mixed in with residential and light industrial uses, in contrast to the physical segregation of different land uses which is typical of Town and Urban Centers. Given the size of the communities they serve, Rural Community Centers offer limited employment opportunities.

The natural, as opposed to the man-made or built, environment is the dominant theme in Rural Community Centers and is one of the main features of its attractiveness.

Physical access to the natural environment for recreational purposes is an important element of daily life in Rural Community Centers. The natural environment surrounding these centers also provides the resource base for agriculture, timber, and tourism, industries which are extremely important to the economy of Shasta County. This desire for physical access to resources which also provide the basis for industry results in land use conflicts. The

greater the number of people located in a rural area, the greater the potential for conflicts. A major conceptual objective of the Rural Community Center is to minimize this potential for conflicts by providing opportunities for relatively small lot rural residential development within a designated area, while locating large lot, lower densities in areas outside the rural communities where the potential for conflict between residential and resource based land uses is greatest.

Residential development within Rural Community Centers is either conventional or manufactured single-family detached housing. As provided by policies contained in the Community Development Element, lot sizes in Rural Community Centers range from 2-20 acres. The lot sizes are a function of dependence on either on-site water supply, or on-site wastewater treatment or both and the desire for generally lower population densities. In some Rural Community Centers, existing developed lots are much smaller in size. The concept of a Rural Community Center recognizes the existence of smaller developed lots, while also recognizing that future development will generally require lots within the 2-20 acre range in order to comply with County wastewater treatment standards and community lifestyle objectives.

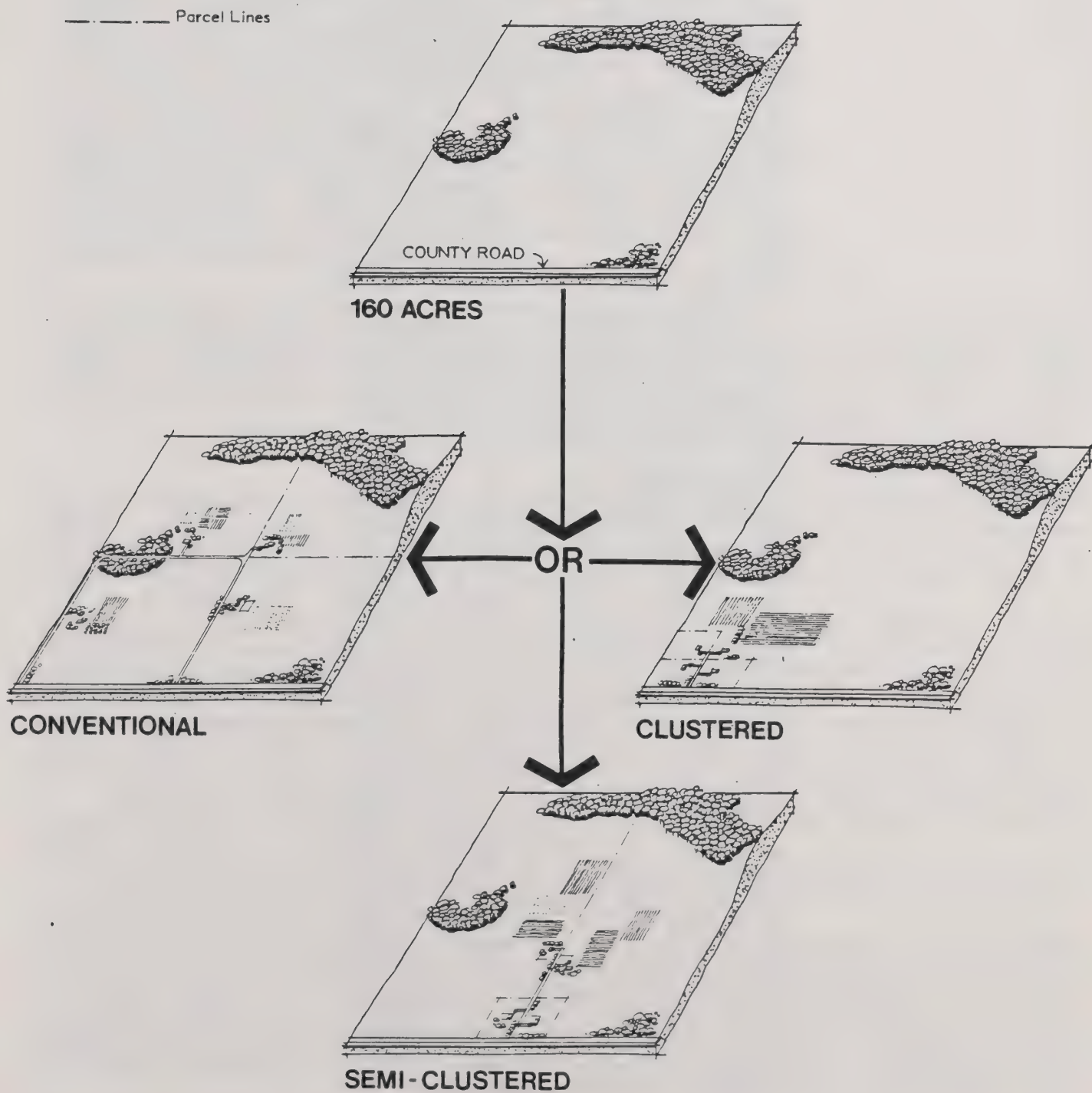
Physical design standards are consistent with the dominance of the natural environment and are much less demanding than those applicable to Urban and Town Centers. However, these standards also respond to factors not present in urban and town centers, including dependence on onsite water supply and wastewater treatment, and wildland fires.

Rural Homesite

The Rural Homesite is at the opposite end of the spectrum from the type of living environment available in Urban Centers. Public services are limited to schools, sheriff and volunteer fire protection and the commercial services provided by Rural Community Centers which are not always readily available. The influence of the surrounding natural environment is pervasive and frequently the presence of the man-made environment is limited to the residence, the electric power lines which serve it, and the road which provides access. In many cases, the Rural Homesite is surrounded by agricultural and timber operations, raising the potential for conflict with them. Also, Rural Homesites are typically located in areas where groundwater supplies are limited or non-existent, soils constrain the use of septic tanks, and fire hazards are extreme.

The concept of the Rural Homesite in the General Plan responds to these above factors through restricting the density of rural residential development outside of Rural Community Centers to relatively large lots. Density is expressed in terms of dwelling units per unit of land area, that is, one dwelling unit per 40 to 80 acres. It is important that this density regulation not be confused with lot size. A major element of the Rural Homesite concept is to permit the density averaging of dwelling units so that smaller lots can be provided while maintaining the desired overall density. Illustrations of variable lot sizes achieved by density averaging is shown in Figure PRE-6. This concept is applied in other areas of the Plan, but it has its greatest utility in rural areas.

FIGURE PRE-6
Examples of Variable Lot Sizes Through Density Averaging (DENSITY: 1 DU/40 ACRES)



Housing types used with the Rural Homesite would be either conventional or manufactured single-family detached housing. Physical design standards would permit experimentation with alternative technologies in wastewater treatment and at a minimum would be consistent with public health and safety objectives.

Planning issues do not respect the invisible boundary lines of cities, counties, and special districts. As noted in the Framework for Planning, the various factors of the natural and man-made environments of the County are closely interrelated. These factors, such as water supply, wastewater treatment, circulation, air quality, and community development, cause the planning issues they raise to transcend political subdivisions. Unilateral approaches to these issues may appear attractive in the short run, but over the long term they may prove undesirable. Several reasons may account for this.

Implicit in any local government land use decision are certain benefits and costs. These benefits and costs may be measured in monetary terms such as tax revenues gained or public service expenditures. In making an independent land use decision, a rational governmental entity, be it County, city, or special district, will seek to maximize its benefits and minimize its costs. Frequently, minimization of costs simply means shifting them to some other entity of government. A better approach would be one designed to foster cooperation so that all ways of cost reduction are explored and, where feasible, utilized.

Unilateral or independent approaches to planning issues may result in the unintended foreclosure of planning options which could be exercised by another government to the advantage of all. Cooperative planning can avoid this result by allowing governments to inform each other of their intentions and jointly develop mutually agreeable plans.

Independent approaches to the provision of services to new development can result in the costly duplication and under utilization of services and the application of different standards for services to areas which may ultimately come under the jurisdiction of another government through annexation. In the latter situation, a change in jurisdiction may require the upgrading of services in existing, developed areas at much higher costs than if the ultimate level of services had been installed initially.

A major theme of the General Plan is the need for interjurisdictional coordination in resolving the planning issues facing Shasta County, the Cities of Anderson and Redding, and its many special districts. Stated more explicitly, the implementation of the Plan depends on the achievement of such coordination. In its absence, many of its objectives will be either difficult or impossible to obtain.

Part Two COUNTYWIDE ELEMENTS



INTRODUCTION

Part Two, Countywide Elements, addresses planning issues of general importance throughout Shasta County. Each Countywide Element addresses a particular set of related planning issues raised by a common subject area, such as agricultural lands, water, and housing.

In order to provide a uniform format, each element contains the following sections:

- Introduction - Describes the subject area covered by the element and its legal authority.
- Findings - Identifies the planning issues addressed by the element, assesses their implications, and generally provides the rationale or basis for the objectives and policies contained in the element.
- Objectives - Presents community values and aspirations regarding this element stated in the form of objectives.
- Policies - Establishes how public regulatory powers and community resources will be used to achieve the objectives of the element.
- Implementation - Generally describes the programs and other actions required to execute or carry out policies.

Part Two contains a total of 26 elements. To assist in their comprehension and use, they have been divided into three categories or groups, as follows:

- Public Safety
- Resources
- Community Development.

This categorization must not obscure the necessity to view each element within the total context of the Plan. Each element addresses a subject area which permits its assignment to one of the three element groups, and each element bears some relationship to one or more elements contained in other groups, as well as to elements within its own group. In order to recognize and call attention to these relationships, at the end of Part Two is a figure showing the planning objectives relevant to each plan element. This figure should be consulted whenever all or part of a plan element is revised in order to insure that internal consistency is maintained within the Plan.

Public Safety Group



The Public Safety Group encompasses General Plan elements concerned with aspects of Shasta County's natural and man-made environment which pose threats to human life or property. The individual elements contained in the Public Safety Group are listed below. These elements are:

- Seismic and Geologic Hazards
- Flood Protection
- Dam Inundation
- Fire Safety and Sheriff Protection
- Noise
- Hazardous Materials
- Air Quality
- Water Quality.

These elements are grouped together because they collectively define basic constraints on land use to which the community development pattern must respond. They are presented first because an understanding of their limitations is essential to formulating a development pattern which adequately provides for human safety.

It is also important to understand the interrelationships of the three element groups. Elements contained in the Public Safety Group place limits on the use of the County's physical resources in order to reduce the risks of loss or damage to life and property to acceptable levels. Elements contained in the Resources Group describe the opportunities presented by the County's resource base and define the limits within which these resources may be used on a long-term, sustainable basis. Elements in the Community Development Group in turn must respond to risks posed by natural and man-made hazards and to the opportunities presented by the resource base.

Responding to these risks and opportunities in a responsible manner will ensure that both present and future generations of County residents will be able to enjoy the quality of life which Shasta County now offers.

SEISMIC AND GEOLOGIC HAZARDS

INTRODUCTION

Section 65302(f) of the California Government Code requires that general plans include an element containing identification and appraisal of seismic and geologic hazards. Seismic hazards addressed by this element include surface faulting, ground shaking, and ground failure.

Non-seismic hazards addressed include volcanoes, erosion, and expansive soils. This element is based on a technical report included in Appendix E. Its major findings and recommendations are summarized below.

FINDINGS

Seismic Hazards

Although not as active as some areas of the state, Shasta County, like all of California, is a seismically active region. The seismicity of a region is described as the distribution, recurrence, and intensity of earthquakes over a period of time. Earthquake activity has not been a serious hazard in Shasta County's history, nor is it probable that it will become a serious hazard in the future.

Surface Faulting

During an earthquake, ground rupture with horizontal and/or vertical displacement may occur. Usually, the width of surface faulting is narrow in rock and much wider in saturated soils. Ground rupture also tends to occur along lines of previous faulting. With detailed investigation, surface faulting usually can be recognized and avoided. However, not all fault traces have been mapped, and some active faults have no surface expression. Where a known active fault or potentially active fault is approximately located, a geological investigation should be conducted prior to development to determine the precise location of fault traces.

The Fault Map of California (1975, Jennings, C.W., et al) places Quaternary faults in the eastern and southern portion of Shasta County. Quaternary faults are those with the latest movement, within the last 2 to 3 million years. The State of California (California Division of Mines and Geology) considers Quaternary faults to be potentially active. In the western portion of the County are older, inactive faults which are not generally considered capable of future movement.

In 1972 the California Legislature enacted the Alquist-Priolo Special Studies Zones Act, which requires the State Geologist to delineate Special Studies Zones around all known traces of potentially and recently active faults in California. The Act requires withholding of construction permit approval until geologic investigation has determined that the building site is not threatened by surface fault displacement. The Special Studies Zones are usually one-quarter mile or less in width (Public Resources Code Section 2622). The State Mining and Geology Board's policies and criteria recommend that, in reviewing the preliminary maps, cities and counties notify all owners of property lying within the preliminary Special Studies Zone. They also stipulate that, after reviewing the preliminary maps, local officials may ask for modifications (Title 14, California Administrative Code Section 3601).

The California Division of Mines and Geology (CDMG) presently does not place any fault in Shasta County within an Alquist-Priolo

Special Studies Zone. The CDMG has given a low evaluation priority to the County primarily because of the low seismicity of the area and the lack of historic fault activity. There are many faults in the County of Quaternary age. It is possible that upon further investigation and evaluation, the CDMG may judge some of these faults potentially active and may place them in a Special Studies Zone. It is anticipated that western Shasta County will be reviewed in 1981, and the eastern portion of the County will be reviewed in 1985.

In the interim period, before that evaluation, it would be prudent for development proposals for critical or high density structures within 1/2 mile of Quaternary faults to include a geologic study of potential fault rupture. These structures may include hospitals, schools, power plants, dams, administrative/office buildings, or high density apartment buildings. Such a study should be performed by a registered geologist according to the general guidelines of the California Division of Mines and Geology. As more detailed geologic investigations are completed, the data should be reviewed and incorporated into the Seismic Safety Element of the General Plan.

Ground Shaking and Failure

Ground shaking is considered to be potentially the most hazardous effect of earthquakes because it is the most widespread and is present to some extent accompanying all earthquakes. The largest losses of life and property during an earthquake historically are due to violent ground shaking and resulting ground failures. In qualitative terms, ground shaking can be described as high, moderate, or low intensity. Higher magnitude earthquakes generally produce higher shaking intensities, over wider areas, which may result in greater damage intensities and be so reflected in the Modified Mercalli intensity ratings.

Shasta County has recorded a low level of historic seismic activity. In the past 120 years, there has been no significant property damage or loss of life due to earthquakes occurring outside and within the County. Maximum recorded intensities have reached Modified Mercalli VII, with possibly one instance of Modified Mercalli VIII. Most of the stronger intensity seismic activity in Shasta County has occurred in the eastern half of the County around Lassen Peak. Therefore, the maximum intensity event expected to occur in eastern Shasta County is Modified Mercalli VIII. In the less seismically active western half of Shasta County, the maximum intensity is expected to be Modified Mercalli VII.

Various processes and phenomena are grouped within the general phenomenon called ground failure. These include seismically induced landsliding, liquefaction, lateral spreading and slumping, settlement, and lurch cracking. All of these involve a displacement of the ground surface due to loss of strength or failure of the underlying materials during earthquake shaking.

Landslides occur throughout Shasta County although they have not been considered a major problem. The landslides are more prevalent in the eastern and northern portion of the County and are commonly related to the sedimentary and volcanic rocks in these vicinities. In the Whitmore Quadrangle mapped by G.A. MacDonald and P.A. Lydon, 1972, slumping and landsliding were widespread and attributed to poorly consolidated sedimentary rocks overlain by

massive volcanic rocks. This type of instability has occurred in the Mongtgomery Creek Formation, in mudflow deposits of the Tuscan Formation, and in the sedimentary rocks of the Chico and Red Bluff Formations. Landsliding in the western portion of the County is not as widespread, but occurs in areas of sedimentary and volcanic rocks. Although existing landslide deposits are a potential source of future landslides, seismically induced landsliding is not considered a significant hazard in Shasta County.

Liquefaction is the temporary transformation of a loose, saturated, granular soil from a solid into a liquefied state, usually as a result of earth shaking. Liquefied soil behaves like a fluid and has the ability to flow. This phenomenon is most likely to occur in alluvial (geologically recent, unconsolidated sediments) and stream channel deposits, especially when the ground water table is high. Areas of potential liquefaction are located in the north central valley area referred to in this report as the South Central Region (SCR).

Damage in Shasta County resulting from earthquakes would most likely be from ground shaking and related ground failure. The effects of ground shaking and ground failure are best mitigated by adequate geotechnical investigations of specific sites, and by designing for the maximum credible earthquake for Shasta County. On the basis of a limited earthquake history for northeastern California, the maximum earthquake would have a Modified Mercalli intensity of VIII for the eastern half of the County and an intensity of VII in the less seismically active western half of the County.

Shasta County has adopted the Uniform Building Code, which establishes building requirements for all new structures based on predicted earthquake intensities. The risk of loss of life and property damage due to seismic activity is minimal if the Uniform Building Code or a stricter code is enforced.

Non-Seismic Hazards

Volcanoes

Shasta County is at the southern end of the Cascade Range, an active volcanic chain that extends northward into British Columbia. As the recent history of Mt. St. Helens indicates, the Cascades are still young and active. The most recent volcanic activity in Shasta County was in 1914-1917, when eruptions of Lassen Peak produced lava flows on the flank of the crater, numerous ash falls, and a large mudflow. The mudflow resulted from melting snow and ash, and moved down Lost Creek and Hat Creek. Several days after the mudflow, a nuee ardente, or "hot cloud," which is a mass of incandescent ash and gas, flowed down the same creeks and covered a wider area. The only indications remaining of previous volcanic activity are hot springs and fumaroles (gas vents) and occasional small earthquake swarms below the mountain.

Hot springs and fumaroles are present on Mt. Shasta, though there is no evidence of historic activity. As with Lassen Peak, the danger from volcanic activity on Mt. Shasta may not necessarily be from an eruption but from mudflows. Historic mudflow maps indicate that some mudflows have travelled more than 18 miles down the flanks of Shasta. While the potential is there, it is doubtful that even a large mudflow from Mt. Shasta would endanger Shasta County.

Most of the eastern half of Shasta County is downwind from relatively active and explosive volcanoes and about 75 to 80 percent of ash from these volcanoes would be expected to fall within this areas.

About 300 years ago within Lassen National Park, a rockfall avalanche occurred in Chaos Crags, an area of dacite lava domes. A recent study by the U.S. Geological Survey found that the potential for rockfall avalanches still exists, and they could happen with little or no warning.

The U.S. Geological Survey and the State of California monitor Lassen Peak and Mt. Shasta using seismometers and tiltmeters. With this system established, there would be sufficient warning of renewed volcanic activity to evacuate the immediate vicinity of the mountain.

Erosion

Erosion generally involves the removal of earth materials from one area with deposition in another and is a normal and inevitable geologic process. Erosional activity can be concentrated, as when land surfaces are gullied and stream banks are undercut, or it can be spread widely by sheetwash and slope denudation. Deposition can affect drainage structures, lakes and reservoirs, and floodplains by clogging with sediments. Activities by man, such as grading, frequently accelerate erosion and deposition.

Recently, Shasta County authorized the preparation of Shasta County Erosion Control Study (CH₂M Hill, 1980). The findings of this study are presented below.

Due to the rapid growth in population, problems of erosion and sedimentation are generally on the rise in Shasta County. Natural vegetation is continually being removed for construction, and the ground surface is often left exposed for long periods of time without adequate protection. In addition, as the impervious areas increase in size, the runoff volume and peak flow rates increase, both of which tend to augment downstream bank erosion. The problems of runoff and erosion are thus far-reaching and may not be completely confined to the construction site.

The existing erosion control practices in Shasta County are, in general, limited to instream disturbances from road crossings and bank stability problems associated with new construction near stream channels. There are usually recommendations presented for culvert sizing and bank stabilization, but these are frequently oriented toward flood control, not erosion. In general, a developer can operate without regard to erosion unless he directly impacts the stream water quality. It is not uncommon to find acres of land denuded and left vacant to erosive forces for one, two, or three winters while legal matters, settlements, etc., are completed.

These types of development practices, where land is scalped and left unprotected, are the ones which are the

most troublesome particularly on steep slopes. Areas where slopes or other lands are left unprotected are also the areas where the greatest percentage of improvement can usually be derived for the least cost.

Because the main emphasis of the County's erosion control is directed towards instream disturbances, the other problem areas are often not addressed. The process for issuing building permits, except in rare cases, has no provision for erosion control plans or practices. Sometimes drainage studies are required within the Environmental Impact Report, but these studies generally are directed toward flood control purposes, not erosion control.

The Regional Water Quality Control Board, (RWQCB) has at times enforced abatement activities upon developments with severe erosion problems. However, with the many problems and heavy workload in all aspects of water quality, time cannot be adequately allocated by the RWQCB to erosion control.

Shasta County has specific ordinances available which reference problems, mitigation plans, and erosion control or erosion-causing practices. These ordinances are the Subdivision Ordinance, the Watercourse Ordinance, and the Grading Ordinance (recently adopted). These ordinances address such items as clearing practices, flood control, environmental protection, cut and fill, slope requirements, siltation, sedimentation, erosion, and watercourse alterations. Each of these categories has a direct impact on erosion and sedimentation control. The use of these ordinance regulations in conjunction with the General Plan and land use policies provides the County with the needed avenues for controlling erosion and sedimentation.

The Shasta County Erosion Control Study presents a set of guidelines for the preparation of an erosion and sedimentation control plan for a particular project. Also included are detailed appendices describing the use of these guidelines and specific control methods.

The next step is the preparation of a unified approach to erosion and sediment control using the implementation mechanisms described above. This effort would include the adoption of standards governing when development projects shall be required to prepare erosion and sediment control plans.

Expansive Soils

Some soils have a potential to swell in volume when they absorb water and shrink when they dry out. These expansive soils generally contain clays that expand when moisture is absorbed into the crystal structure. In general terms, most of Shasta County is characterized by moderately expansive soils with areas of low expansiveness in the South Central Region and southeastern corner of the County. Small

scattered areas of highly expansive soils occur in the mountains of the Western Upland, French Gulch, and North East Shasta County Planning Areas. This hazard is identifiable through standard soil tests and its effects on structures can be mitigated through the requirement of proper engineering design and standard corrective measures.

OBJECTIVES

- SG-1 Protection of all development from seismic hazards by developing standards for the location of development relative to these hazards; and protection of essential or critical structures, such as schools, public meeting facilities, emergency services, and high-rise structures, by developing more stringent standards.
- SG-2 Protection of development on unstable slopes by developing standards for the location of development relative to these hazards.
- SG-3 Protection of development from other geologic hazards, such as volcanoes, erosion, and expansive soils.

POLICIES

- SG-a Development proposals for critical or high density structures located within 1/2 mile of Quaternary faults shall be encouraged to include a geologic study of potential fault rupture. Critical and high density structures include hospitals, schools, power plants, high occupancy administrative office buildings, or high density apartment buildings. Geologic studies which are undertaken shall be performed by a registered geologist according to general guidelines of the California Division of Mines and Geology. The County Planning Department shall assist sponsors of development in generally locating Quaternary faults and refer them to more detailed studies. This policy shall be revised, as appropriate, upon the designation of Special Studies Zones by the California Division of Mines and Geology.
- SG-b No development shall take place on or immediately adjacent to an existing landslide unless a geotechnical investigation has been performed. This investigation shall define slide activity and slide limits, and contain specific recommendations regarding avoidance, removal, or repair. The Planning Department shall maintain a map showing the general location of existing landslides for reference by development sponsors. The determination of the location of a landslide relative to a proposed development and the preparation of any geotechnical report shall be the responsibility of the development sponsor.
- SG-c The Shasta County Office of Emergency Services shall maintain its coordination with state and federal agencies monitoring volcanic activity and shall periodically review and update the Shasta County Emergency Plan with respect to volcanic hazards.

SG-d Shasta County shall adopt standards for new development governing the preparation of erosion and sediment control plans.

SG-e When soil tests reveal the presence of expansive soils, engineering design measures designed to eliminate or mitigate their impacts shall be employed.

IMPLEMENTATION

Policy SG-a requires identifying proposals to construct certain critical or high density structures, as defined by this policy. This monitoring would be accomplished primarily through monitoring building permit applications, and to a lesser extent, use permit applications. Once identified, these proposals would be located relative to Quaternary faults. Given the location of these faults, almost all proposals for these structures would lie outside the one mile corridor. As noted in the policy, geologic studies would be encouraged, but not required until such time, if ever, Special Studies Zones are designated within the County.

Policy SG-b requires the maintenance of a map identifying the general location of existing landslides and calling their location to the attention of proponents of development on or adjacent to them. Decisions regarding whether a geotechnical investigation is merited rest with the development proponent. This map should be updated as investigations which are performed and other reports discover the existence and precise location of landslide deposits.

Policy SG-c is self-explanatory with respect to implementation.

Policy SG-d requires continuation of the effort initiated by the preparation of the 1980 Shasta County Erosion Control Study. As indicated, there needs to be some determination by the County when it should require new development to prepare erosion and sediment control plans, how such plans should be reviewed for adequacy, and appropriate enforcement measures.

Policy SG-e would be implemented through the building permit review process.

FLOOD PROTECTION

INTRODUCTION

The purpose of the Flood Protection Element is to reduce damage to public health and property resulting from flooding. Although a flood protection element is not specifically required as part of a general plan, flood protection is a relevant safety issue in Shasta County and is therefore included in the Public Safety Element Group as suggested by Government Code Section 65302(i).

FINDINGS

Various areas in Shasta County are subject to flooding by rivers and creeks. Unfortunately, many of these same areas are also desirable locations for development as they are often characterized by level topography, good access to transportation systems, and soils well suited for agricultural operations and septic tank usage.

Development in flood-prone areas of the County has occurred throughout its history, frequently resulting in damage to property and loss of life when flooding occurred. Between 1900 and 1970, there have been thirteen severe floods in the Sacramento River Basin.

The private and public costs of flooding are substantial. In 1970, flooding resulted in approximately \$12 million in damages, and close to \$8 million in 1974. Problems caused by flooding are many and include loss of life, displacement or complete destruction of buildings, water damage to buildings and furnishings, siltation, temporary loss of utilities, road damage, transportation slowdowns, loss of goods and materials, damage to bridges by objects floating downstream, and the threat of waterborn disease.

Despite the potential hazards involved with development in floodplains, they remain desirable areas for a variety of land uses. In addition to residential and agricultural uses, flood-prone areas frequently offer good recreational opportunities and often provide habitat for many forms of wildlife, including rare or endangered animal and plant species. The Sacramento River floodplain is an excellent example of such an area in Shasta County.

Damages resulting from the development of flood-prone areas can be realized through floodplain management. This management concept encompasses a comprehensive program of corrective and preventive measures for reducing flood damage, including but not limited to emergency preparedness plans, flood control works, and floodplain management regulations.

The National Flood Insurance Act of 1968 offers an important incentive to communities for implementing a floodplain management program. In communities which have adopted floodplain management regulations, owners of property located in flood prone areas may obtain federally subsidized flood insurance. Shasta County has adopted such floodplain management regulations and has assigned administration of the Flood Insurance Program to the Office of Special Districts, primarily because of its additional flood control and drainage responsibilities through the Shasta County Water Agency.

The boundary of the 100-year floodplain is the basic planning criterion used to distinguish areas where flood hazards justify the establishment of floodplain management regulations from areas where regulations are not justified. The 100-year floodplain boundary defines the geographic area which would be inundated by a flood having a one percent (1%) chance of being equaled or exceeded in any given year. Outside of this boundary, the degree of flooding risk is not considered sufficient to justify the imposition of floodplain management regulations, while inside the 100-year floodplain some level of regulation is required to protect public health, safety, and welfare.

Within the 100-year floodplain, additional planning criteria relate to the degree of floodplain regulation which is appropriate. For purposes of the National Flood Insurance Program, the area of the 100-year floodplain is divided into a floodway and a floodway fringe.

The floodway is the channel of a stream, plus any adjacent floodplain areas, that must be kept free of development so that the 100 year flood can be carried away without substantial increases in flood heights. Development within the floodway reduces its flood water carrying capacity and increases flood height, thereby increasing flood hazards beyond the border of the floodplain. As a minimum standard, the Federal Insurance Administration limits increases in flood heights within the floodway to 1.0 foot provided that hazardous water velocities do not occur.

The area between the floodway and the boundary of the 100-year floodplain is termed the floodway fringe and encompasses the portion of the floodplain that could be used for development without increasing the surface elevation of the 100-year flood more than 1.0 foot at any point.

The relationship between the floodway and the floodway fringe and their significance to floodplain development are shown in Figure FL-1.

Once the floodway and the floodway fringe have been distinguished within the 100-year floodplain, different development standards may be formulated for each area. These standards have two functions. First, they are designed to minimize loss of life and property damage by (a) controlling the types of land uses which are permitted, and (b) prescribing certain construction methods. Second, they are intended to preserve the ability of the floodway to discharge the 100-year flood. Failure of floodplain regulations to recognize this latter function by prohibiting encroachment of the floodway will result in an increase in the geographic area of the 100-year floodplain.

At present, a comprehensive floodway mapping project is being conducted by the State Department of Water Resources (DWR). Termed the Flood Insurance Study, this project is funded by the Federal Insurance Administration and is expected to be completed in late 1981. The Flood Insurance Study involves the determination of the 100 year floodplain boundaries for segments of various rivers and creeks in Shasta County, including the Churn, Salnar, Salt, Jenny, and Stillwater Creeks. Portions of Hat Creek and Fall River in North East Shasta County are also being studied.

Another aspect of the Flood Insurance Study involves detailed floodplain mapping along portions of Burney Creek in North East Shasta County, as well as segments of Sulphur, Dry, Churn, and Cow Creeks and the Sacramento River. The aim of these more detailed investigations is to determine floodplain profiles (floodways and floodway fringes) along these particular watercourses. Preliminary data from these investigations indicate that flooding hazards pose major development constraints in these areas.

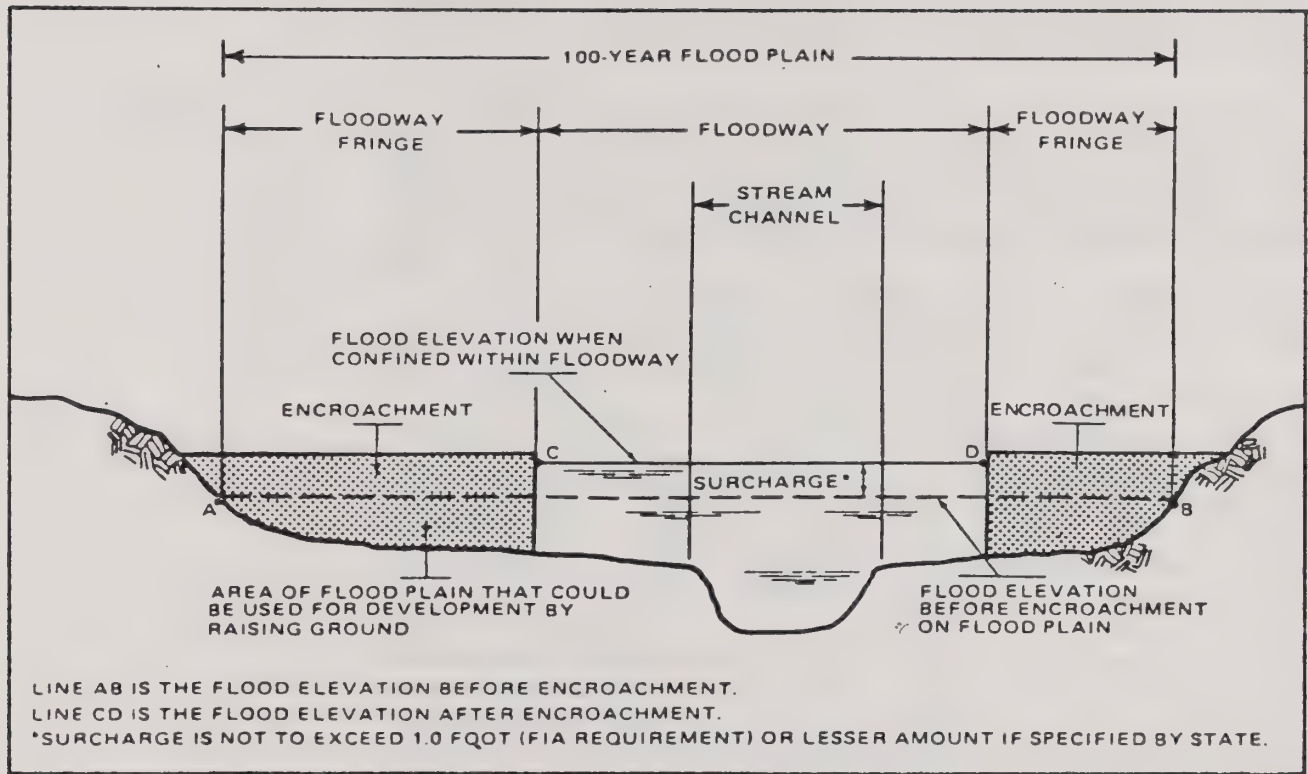
Once this mapping project has been completed by DWR, maps will be sent to the Federal Insurance Administration where engineering data will be transformed into flood insurance criteria which, among other things, determines flood insurance zone designations for each flooding source studied in detail by DWR.

Based on preliminary data from DWR, identified floodplain areas have been included under the Natural Resource Protection land use category for the Shasta County General Plan. DWR information should also serve as the basis for land use and zoning designations in floodplain regions during the implementation phase of the planning process.

Heavy winter rains in the Sacramento Valley and subsequent flooding of the Sacramento River frequently results in severe erosion of the rivers banks and loss of valuable agricultural soil and riparian vegetation as well as life and property.

In response to this recurring situation, in 1970 Congress authorized funding for a federal flood control project along tributaries of Cottonwood Creek. The project involves construction of two earth

FIGURE FL-1
Floodplain Schematic



SOURCE: U.S. Department of Housing and Urban Development

filled dams by the U.S. Army Corps of Engineers. These dams would create Dutch Gulch Lake in Shasta County, approximately 11 miles west of the town of Cottonwood; and Tehama Lake in Tehama County. The project is estimated to save \$3 million per year in flood damages.

Delays in the construction of this project have been due primarily to concerns regarding the environmental impact of the dams as well as the structural integrity of the dams. The environmental impact report is expected to be completed by May, 1982 and public hearings have been tentatively scheduled for June, 1982.

The land use implications of the proposed Cottonwood Creek project transcend a range of planning issues which require attention in the long range planning process for Shasta County.

The creation of Dutch Gulch Lake for example, will require decisions regarding future land uses along the lakeshore as well as the allowable type and density of future development. Typical land uses adjacent to man-made lakes include public and private recreational activities and lake front home sites. Due to financial constraints, no County recreational facilities are planned for Dutch Gulch Lake at the present time. This would not necessarily preclude private development of recreational facilities at the site, yet some sources have argued that during the summer months water levels in these reservoirs may be too low to support recreational activities. Therefore, decisions regarding the allowance of recreational uses at Dutch Gulch Lake should consider recreation potential as well as reflect the demand for recreation facilities. Despite the proximity of Shasta Lake and the Whiskeytown Lake and National Recreation Area, the Corps of Engineers has estimated up to 3,000,000 recreation users will be attracted to the lake each year.

In the short-term, recreational and homesite development at Dutch Gulch Lake would create jobs and revenue for the County. However, major development would necessitate changes and improvements in the County road system as well as other public services such as water, sewer, and fire and police protection. In addition to land use implications, an estimated 30 megawatts per year of hydroelectric power is potentially available from the two dams; enough to serve more than 21,000 homes. The need for another large hydroelectric generating station, however, must be balanced against its environmental impacts. Of primary concern are temperature increases caused by dam operations which may be detrimental to spawning Salmon and their unhatched eggs should water temperatures rise above 57° F. In the long-term, this could have substantial impact on the anadromous fishing industry of the County.

Other environmental issues concerning the Cottonwood Creek Project include the impacts caused by the flooding of 29,000 acres of pasture land in the Western Upland Planning Area. Not only will valuable grazing lands be destroyed but deer and other wildlife habitats as well.

OBJECTIVES

FL-1 Protection of public health and safety, both on-site and downstream, from flooding through floodplain management which regulates the types of land uses which may locate in

the floodplain, prescribes construction designs for floodplain development, and requires mitigation measures for development which would impact the floodplain by increasing runoff quantities.

POLICIES

- FL-a New development in floodplains shall be regulated under zoning regulations addressing land use type, density, and siting of structures.
- FL-b Flood control measures should be considered part of a Countywide improvement program, and should advance the goals of recreation, resource conservation (including stream-side vegetation and habitat), and the preservation of the scenic values of the County's streams and creeks.
- FL-c Whenever possible, flood control measures should consist of channel diversions or limited floodplain designs which avoid alteration of creeks and their immediate environs.
- FL-d The County shall adopt emergency preparedness plans to protect the public from flooding hazards.
- FL-e No new critical or high occupancy structures (e.g., schools, hospitals) shall be located in the 100 year floodplain.
- FL-f Known flood hazard information shall be reported as part of every General Plan amendment, zone change, use permit variance, building site approval, or other land development applications subject to environmental assessment.
- FL-g Flood Hazard Maps shall be maintained by the County Office of Special Districts to aid in proposed project review.
- FL-h Proposals involving development in flood hazard areas shall be referred to the Shasta County Water Agency for review and recommendations.

IMPLEMENTATION

The primary vehicle for implementing this element will be two existing zoning districts: the designated floodway or F-1 District and the restrictive flood zone or F-2 District. The F-1 District will be applied to the floodway, while the F-2 District will be applied to the balance of the 100 year floodplain.

The primary task in implementing this element will be the geographic application of these Districts. Since the F-1 and F-2 Districts are currently operative, much of this mapping has been done already based on information provided by State and Federal agencies. Currently, the State Department of Water Resources is conducting studies of various watercourses in Shasta County for the Federal Insurance Administration. These studies are of two types. One type is concerned with the approximate boundaries of the 100 year floodplain. The other type are detailed studies of the 100 year floodplain floodway, and flood profiles or elevations. Both studies should be used to review and revise the mapping of the F-1 and F-2 Districts.

The F-1 and F-2 Districts should also be amended as follows:

- Include a process for the site specific adjustment of district boundaries based on detailed, valid data submitted by a project proponent, property owner, etc.
- Clarify when a use permit is or is not required for development within an F-1 or F-2 District.
- Prohibit the construction of critical or high occupancy structures within F-1 and F-2 Districts.

The Shasta County Emergency Plan should be revised to include an annex addressing appropriate action in the event of the 100 year flood.

The Planning Department will continue its present practice of maintaining flood hazard maps and revising them as new data is made available. The EIR review process will continue to address flooding in its initial assessments.

The remaining polices require no specific implementation other than action by County agencies consistent with them.

DAM INUNDATION

INTRODUCTION

The discussion of dam inundation falls under the authority of the state mandated Safety Element. The Dam Inundation Element is a means for identifying hazards which require consideration in planning the type, location, and density of development. Policies and programs proposed in this element thus should be closely coordinated with other General Plan elements as well as activities of the County Office of Emergency Services.

FINDINGS

Dam inundation is defined as the flooding which occurs as the result of structural failure of a dam. Structural failure may be caused by seismic activity, although such activity mainly threatens dams of earth construction. Seismic activity may cause inundation without also causing dam failure by the action of a seismically induced wave which overtops the dam. This action, which is similar to water sloshing in a bathtub and spilling over the side, is referred to as a seiche. Water retained in a dam could also be replaced by the action of a volcanically induced mudflow. Landslides into a reservoir are also a major source of potential dam failure.

Over 3000 water impoundments are presently located in Shasta County. Of these, 36 are jurisdictional size dams and thus their design, operation, and maintenance come under the authority of the California Department of Water Resources. The State Office of Emergency Services has further identified those jurisdictional dams whose failure may cause injury or loss of life. These dams are listed in Table DI-1.

The California Office of Emergency Services has also prepared maps showing the areas which would be inundated assuming the failure of the dams listed in Table DI-1. These maps are based on the structural type of each dam and its failure characteristics (the

likely rapidity and degree of failure and inundation). Dam inundation information has been transferred to maps of the planning areas in Shasta County potentially affected by dam failure and are on file with the Shasta County Planning Department.

Dam inundation hazards present major health and safety implications in the SCR Planning Area, particularly in the vicinity of the Shasta Lake and Whiskeytown Reservoir dams. Failure of Shasta Dam would result in the inundation of most of Redding within less than an hour of failure, and within two hours, all of Anderson and much of the Sacramento River Valley downstream of Redding would be inundated.

Given its smaller size and location relative to existing development, failure of Whiskeytown dam would be less disastrous. Redding would not be affected, but over half of Anderson would be inundated within two hours of failure. A smaller portion of the Sacramento River Valley downstream of Clear Creek would also be inundated. The proposed elevation of Shasta Dam would require revision of its inundation hazard maps. Construction of the proposed Dutch Gulch Reservoir on Cottonwood Creek would create a new inundation hazard area.

Considering existing development patterns and trends, particularly in the South Central Region, it would be infeasible to preclude future development from locating in dam inundation areas. It is possible, however, to discourage critical structures (hospitals, fire, and police stations) and high occupancy (schools, theatres, and public meeting places) from locating in these areas. These policies are designed to reduce the risk of injury or loss of life in the event of inundation and should be addressed by County evacuation preparation plans as well as General Plan policies.

OBJECTIVES

DI-1 Reduction of damage to life and property from dam inundation by developing emergency preparedness plans and protection of essential or critical new structures by excluding them from locating in dam inundation areas.

POLICIES

DI-a New critical structures and high occupancy buildings shall be prohibited from locating in areas of dam inundation hazards. This prohibition may be waived, subject to conditions in situations where its application would not be in the public interest. Waiver of this prohibition, which shall be exercised sparingly, shall consider the following factors where relevant:

- The long-range importance of the critical structure to the public interest in the event of dam failure relative to the cumulative costs to the public of locating the structure outside the area of dam inundation hazard.
- The public interest in protecting the occupants of high occupancy buildings relative to the public interest in siting these buildings in easily accessible locations.

DI-b Dam Failure Inundation Maps shall be maintained by the County Office of Emergency Services to aid in proposed project review.

TABLE DI-1

SHASTA COUNTY DAMS WHOSE FAILURE MAY RESULT IN INJURY OR LOSS OF LIFE

<u>Name</u>	<u>Owner/Operator</u>	<u>Planning Area(s) Affected</u>
Box Canyon	—	Sacramento Canyon
Boyd #1 and #2	Boyd Trucking Company	South Central Region
Haynes Reservoir	—	Northeast Shasta County
Iron Canyon	PG&E	Big Bend
Keswick	—	South Central Region
McCumber	PG&E	Eastern Forest
McCloud	PG&E	Northwestern Forest
Nash	Dr. Lewis Nash	South Central Region
North Battle Creek	PG&E	Eastern Upland, Eastern Forest
Pit #1, 3, 4, 5, 6, 7, Forebay	PG&E	Big Bend, Northeast Shasta County
Pit #5, Open Conduit Dam	PG&E	Big Bend
Whiskeytown	Department of Interior	South Central Region
Shasta	Department of Interior	South Central Region

Source: State of California Office of Emergency Services

DI-c When development proposes to locate in areas adjacent to an operating dam, the Shasta County Water Agency shall coordinate efforts with the County Office of Emergency services to determine if preparation of dam inundation maps is warranted.

DI-d The Shasta County Emergency Plan shall provide for early warning and emergency evacuation routes in the event of dam failure.

IMPLEMENTATION

A new zoning district should be developed for application to all inundation areas for dams listed in Table D1-1. The basic purpose of this district would be to prohibit new construction of critical structures and high occupancy buildings within inundation areas. A critical structure would include any structure or facility housing services or equipment which would be used in the event of dam failure and subsequent inundation. High occupancy buildings would be defined as:

- Schools with an enrollment of 100 or more students.
- Public meeting places with seating accommodations for 300 or more people.
- Residential housing constructed at densities in excess of 30 dwelling units per net acre.
- Residential group quarters for persons 60 years or older in excess of 25 persons per net acre.

This district should contain a procedure for conditionally modifying the outright prohibition described above where its application would not be in the public interest.

The maintenance of dam inundation maps is and will continue to remain the responsibility of the Office of Emergency Services. The Shasta County Water Agency shall be responsible for advising the Office when it believes the location of new development relative to a dam may require the preparation of an inundation map. The Office in turn shall take action to inform the California Office of Emergency Services.

The Office of Emergency Services is currently revising the Shasta County Emergency Plan to address early warning and evacuation in the event of dam failure.

FIRE SAFETY AND SHERIFF PROTECTION

INTRODUCTION

This element discusses conditions and issues relevant to the protection of public health and safety from fire damage. It also addresses sheriff protection in Shasta County. These topics are required under the state mandated safety element which reads:

"A safety element for the protection of the community from fires . . . including features necessary for such protection as evacuation routes peak load water supply requirements, minimum road widths, (and) clearances around structures . . ." (Government Code Section 65302(i)).

FINDINGS

There are generally two types of fire hazards, wildland and nonwildland fires.

Wildland Fire

Wildland fires burn natural or wild vegetation located on essentially undeveloped lands. Human activities such as smoking, debris burning, and equipment operation are the major causes (90%) of wildland fires. Lightning causes the the remaining 10% of the wildland fires in Shasta County. Whatever the cause, wildland fires present a major safety hazard to rural development located in forest, brush, and grass covered areas. Between 1977 and 1979, there was an average of 435 wildland fires per year in Shasta County. The majority of these wildland fires occurred in the upland areas of Shasta County where fire hazards are extreme due to an abundance of highly flammable vegetation and long, dry summers.

The California Department of Forestry has devised a fire hazard severity classification system for California's wildlands which assesses the fire potential for wildlands based on three factors: fuel load, climate, and topography. Each of these factors is discussed below.

Fuel Load

Vegetation is the major source of fire fuel. The quantity of available vegetative fuel determines the intensity of a wildland fire. Types of fuel loads are classified into three categories:

LIGHT (GRASS). Includes areas dominated by grasses, annual herbs, and barren land. This is the lightest fuel load; it burns easily, but is the easiest to control.

MEDIUM (SHRUB). Includes areas in which brush, shrubs, and other perennial vegetation less than six feet in height are dominant.

HEAVY (WOODS - BRUSHWOOD). Includes areas in which vegetation six feet or more in height is dominant. This is the hardest vegetative type to get burning but due to the heavy fuel load it is the hardest to control once burning.

Climate

Critical to fire control is the weather. The combination of wind, low relative humidity, and seasonal lack of precipitation provides the basis for critical fire weather. The long, dry, hot summers that are representative of California reduce the moisture in vegetation, thereby increasing its susceptibility to fire. Once burning, low humidity and winds cause a fire to spread rapidly. All wildlands in California experience critical fire weather to some degree, which is the primary reason for the state's notorious fire problem. Critical fire weather is broken into three classes depending on frequency of critical fire weather. Class I areas are least susceptible, Class II more susceptible, and Class III are most susceptible to critical fire weather.

Topography

The influence of topography on fire hazard increases with slope, as steep slopes cause fires to burn faster and increase travel time for emergency equipment. Thus, as slope increases, the ability to control fire decreases

Hazard Classifications

These factors are combined in matrix form to derive three wildfire hazard classifications: moderate, high and extreme, as shown in Figure FS-1. Wildland fire hazard classifications have been mapped for each of the ten Shasta County planning areas.

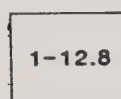
People are also a factor in wildland fires. In California, nine out of ten wildland fires are started by humans and usually occur near areas of human occupancy. Between 1977 and 1979, there was an average of 435 wildland fires per year in Shasta County. The majority of these wildland fires occurred in the upland areas of Shasta County where fire hazards are extreme, due to an abundance of highly flammable vegetation and long, dry summers.

Wildland fires in developed areas are difficult to control even when adequate equipment and personnel are available, as residential intrusion requires the deployment of firefighting techniques unlike those used in urban areas. Structural fires must be extinguished with large amounts of water, whereas wildland fires are controlled by containing the blaze and allowing the flames to die out. In order to protect vulnerable buildings from wildland fires, firefighting resources are usually spent protecting the structures rather than controlling the fire. This frequently results in larger, more costly fires with greater destructive potential.

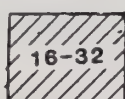
As a general rule, wildland fire hazards do not preclude development, yet they do require that development meet special standards commensurate with the degree of risk. The California Division of Forestry has prepared Fire Safety Standards for Parcel Maps and Subdivisions in Shasta County, Draft, May, 1981. These proposed development standards address access, road widths, bridges, building construction, and hydrant and water systems. A section on mitigation measures is also included. The proposed standards are particularly helpful in that they directly relate to fire hazard severity classifications.

FIGURE FS-1
Fire Hazard Severity Scale

CRITICAL FIRE WEATHER FREQUENCY →	I (1)			II (2)			III (8)		
FUEL LOADING ↓	SLOPE %			SLOPE %			SLOPE %		
	0-40 (1)	41-60 (1.6)	61+ (2.0)	0-40 (1)	41-60 (1.6)	61+ (2.0)	0-40 (1)	41-60 (1.6)	61+ (2.0)
Light (Grass) (1)	1	1.6	2	2	3.2	4	8	12.8	16
Medium (Scrub) (8)	8	12.8	16	16	25.6	32	64	102.4	128
Heavy (Woods-Brushwood) (16)	16	25.6	32	32	51.2	64	124	204.8	256



MODERATE HAZARD



HIGH HAZARD



EXTREME HAZARD

* Severity Factor Values are shown in Parentheses in the Table

Nonwildland Fire

Nonwildland fires include structural, chemical, vehicle and other man-made material fires. Nonwildland fires, as opposed to wildland fires, also pose the greatest threat to human life and property. As these fires occur predominantly in urban areas, future urban development in Shasta County will undoubtedly increase the need for fire protection services. In recent years, however, local governments in California have been confronted both with significant increases in the cost of providing fire protection services and a diminished ability to meet these costs due to Constitutionally imposed constraints on their ability to tax.

Fire Protection Services

Fire control agencies in Shasta County operate at all three levels of government: federal, state and local.

Federal

U.S. FOREST SERVICE. This agency is responsible for wildland fire control on all Forest Service administered lands and private wildlands within and adjoining Forest Service lands.

NATIONAL PARK SERVICE. The NPS provides protection for Lassen National Park and Whiskeytown National Recreation Area.

State

CALIFORNIA DEPARTMENT OF FORESTRY. CDF is responsible for wildland fire control outside of Forest Service boundaries on approximately 1.2 million acres of mostly private wildlands. There are seven CDF Ranger Districts in Shasta County which support firefighting equipment and personnel, and three additional stations which serve the County although located outside its boundaries.

Local

Fire agencies serving the unincorporated areas of Shasta County include twelve (12) community fire districts, eighteen (18) volunteer fire companies, and two (2) Shasta County Fire district stations, one at Anderson and the other at the Redding Municipal Airport. The eighteen volunteer fire companies or departments are operated under the jurisdiction of the Shasta County Fire Department, as are the two County fire district stations. The community fire departments, on the other hand, are separate legal entities with legally drawn boundaries. Community fire districts have boards of directors and budgets separate from that of the Shasta County Fire Department. A listing of County fire districts and departments is provided in Table FS-1.

Many of the local fire agencies overlap with CDF and Forest Service jurisdictions. Local agencies are thus responsible primarily for nonwildland fires, while state and federal agencies respond primarily to wildland fires. In practice, however, all agencies work together and overlap duties when the need is present.

Sheriff Protection

The unincorporated areas of Shasta County receive general public safety and law enforcement services from the Shasta County Sheriff Department. Urban, unincorporated areas are covered by geographic patrol areas or beats. The SCR Planning Area is divided into 5 beats, two of which extend east and west to cover part of the

TABLE FS-1

SHASTA COUNTY FIRE DEPARTMENTS AND FIRE DISTRICTS

<u>Fire Departments (Volunteer Fire Companies)</u>	<u>Fire Districts</u>
Bella Vista	Anderson (unincorporated areas)
Big Bend	Burney
Cassel	Castella
Centerville	Central Valley
Cloverdale	Cottonwood
Hat Creek	Fall River Mills
Igo-Ono	French Gulch
Jones Valley	Happy Valley
Keswick	McArthur
Millville	Mountain Gate
Montgomery Creek	Shasta
Oak Run	Summit City
Old Station	
Palo Cedro	
Shasta College	
Shasta Lake	
Shingletown	
Whitmore	

Source: Shasta County Fire Department.

Eastern Upland and all of the Western Upland Planning Areas. Each beat receives 24 hour coverage by 3 officers, each assigned to an 18 hour shift. The North East Planning Area is divided into 2 beats and is served in a similar manner. The remaining rural unincorporated area of the County is divided into 3 geographic areas served by resident deputies. Two areas are each served by 3 men and 1 man serves the remaining area.

The Sheriff Department uses a rule of thumb of one officer per 1,000 population to estimate personnel requirements. The Department estimates the current annual cost per officer is \$25,000 exclusive of equipment costs.

The growth of Shasta County during the planning period will require expansion of the Sheriff Department to serve the needs of new residents of unincorporated areas. The service requirements generated by the tourist industry will also continue to be significant. Coordination between the Sheriff Department and Planning Department will be useful in identifying future service needs and areas where development could occur without generating new demands for sheriff protection. New development in the unincorporated, urban areas of the County will lend themselves to the use of physical designs to develop a sense of community identity and self-protection.

OBJECTIVES

- FS-1 Protect development from wildland fires by requiring development to incorporate design measures responsive to the degree of risk from this hazard and by encouraging development to locate in moderate hazard areas.
- FS-2 Encourage new development in areas already served by fire and sheriff protection services so that existing services may be extended; thereby avoiding the substantially higher costs of establishing new services.
- FS-3 Protection of life and property from crime by encouraging physical design of new development to establish a sense of community identity and to incorporate defensible space design techniques.

POLICIES

- FS-a All new subdivisions shall be required to conform to Division of Forestry Fire Safety Standards for Parcel Maps and Subdivisions in Shasta County.
- FS-b Known fire hazard information should be reported as part of every General Plan amendment, zone change, use permit, variance, building site approval, and all other land development applications subject to environmental assessment.
- FS-c Fire Hazard Maps shall be kept on file by the Shasta County Planning Department.
- FS-d All proposed subdivisions shall be referred to the Sheriff Department for review and comment concerning the ability of the Department to provide sheriff protection service. The

review and comment shall contain specific recommendations, which may be in the form of subdivision map conditions, as to any additional equipment, facilities, and personnel required to provide service.

FS-e New development in urban and suburban areas shall be encouraged to incorporate site planning and structural design features designed to prevent crime by developing a sense of community identity and responsibility for informal surveillance of activities within the community.

IMPLEMENTATION

The Shasta County Subdivision Standards are currently being revised to incorporate the Fire Safety Standards for Parcel Maps and Subdivisions.

The remaining policies reflect existing County practices and require no new implementing actions.

NOISE

INTRODUCTION

Government Code Section 65302 (g) requires the preparation of a noise element, the primary purpose of which is to serve as a guideline for use in the development of a land use element designed to achieve a noise compatible land use pattern. Land uses are both receivers and generators of sound. A noise compatible land use pattern is one in which noise sensitive land uses are not adversely affected by the surrounding uses, and in turn noise intrusive land uses are located in environments tolerant of their noise impacts. Supporting documentation for this element is found in Appendix F.

FINDINGS

The noise environment of Shasta County is not the same in all parts of the County and is directly related to the pattern of urbanization and associated transportation networks. Urban areas associated with Redding and Anderson are exposed to the higher noise levels in the County, while the rural areas are extremely quiet. This difference suggests that different approaches to the issue of environmental noise are required in each area. In general, the existing quiet areas of the County should be protected from noise generating land uses which could be located in more noise tolerant areas of the County.

Within the urban areas of the County, the major noise sources which determine the character of the noise environment are associated with the circulation system. Analysis of the increases in the future traffic levels anticipated for this system indicate that adverse noise impacts, with certain exceptions, will be generally limited. Accordingly, the major land use noise compatibility issue in these areas is concerned with relating new development to the existing noise environment. This environment is documented in the Noise Environment map of the SCR area, and Table 5 of Appendix F.

The exceptions to this general statement relate to areas which will experience significant traffic increases during the planning period. Traffic will increase in the Central Valley area and the corresponding noise increases will have major implications for existing and new development. A similar observation applies to the

areas of new urbanization anticipated in the areas northeast and east of Redding. In these areas, design of transportation improvements and the siting of new development should carefully assess noise impacts.

As noted above, the rural areas of the County are considerably quieter than the urbanized areas of SCR. However, these rural areas are similar to SCR in that the major noise source is the circulation system, and future increases in traffic volumes using this system will not result in significant noise impacts. Again, the major land use noise compatibility issue is concerned with relating new development to the existing noise environment, which is documented in Table 4 of Appendix F.

OBJECTIVES

- N-1 Protection of existing quiet areas of the County by regulation of new noise-generating development locating in these areas.
- N-2 Protection of noise sensitive new development from existing and future noise generators by regulations encouraging each to locate within compatible noise environments.
- N-3 Protection of established noise-generating development from noise sensitive new development.

POLICIES

- N-a Existing quiet areas of the County are defined as areas where the prevailing noise environment does not exceed 55 CNEL. In order to achieve the intent of Objective N-1, noise-generating development is defined as projects whose long-term off-site noise impacts would cause the 55 CNEL to be exceeded. The off-site noise impacts of a noise generating development project shall include noise associated with the circulation system required to serve it.
- N-b The noise sensitivity of land uses as established in Figure N-1 shall be used in the location of new development, the preparation of General Plan amendments, and the preparation of specific plans. The Community Noise Exposure Level (CNEL) shall be established by reference to the noise exposure map of the SCR Planning Area, Tables 4, 5, and 6 of Appendix F, or project specific measurements or calculations. The levels of acceptability specified in Figure N-1 shall be interpreted according to the following guidelines:
 - Normally Acceptable - Specified land use is satisfactory within the range specified, based on the assumption that any buildings involved are of normal conventional construction without any special noise insulation requirements.
 - Conditionally Acceptable - New development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design.
 - Normally Unacceptable - New development should generally be discouraged. If new development does proceed,

a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

- Clearly Unacceptable - New development should generally not be undertaken.

The above interpretive guidelines shall not be applied mechanically, but with the degree of flexibility required in each case to achieve a sound and feasible land use decision. However, in no case shall a residential land use be located where the existing noise environment, combined with the measured or calculated noise reduction of the type of structure under consideration, makes it impossible to maintain an interior noise environment in excess of 45 db CNEL.

- N-c The planning and design of improvements in the circulation system shall consider their noise impacts on adjacent land uses and shall include measures to mitigate significant noise impacts.
- N-d New development shall be encouraged to use site planning and the design of structures to create desirable noise developments.

IMPLEMENTATION

Policy N-a will be implemented through the environmental assessment or review process. Responsibility for demonstrating compliance with this policy will rest with the project proponent. Noise measurements will be taken as deemed necessary by the environmental review officer. As a practical matter, noise measurements should be required only in the case of manufacturing or industrial projects or large scale residential projects generating substantial increases in existing traffic volumes.

Policy N-b will also be primarily implemented through the environmental review process and the discretionary review of proposed projects.

Policy N-c will be implemented by the Public Works Department.

Policy N-d will be implemented by the Planning Department through its discretionary review of proposed projects.

HAZARDOUS MATERIALS

INTRODUCTION

Hazardous materials include all toxic flammable, combustible, corrosive, poisonous, and radioactive substances. An important subcategory of hazardous materials are hazardous wastes. Hazardous wastes should not be confused with solid wastes which are discussed in the Community Development Element Group. Solid waste includes garbage, wash refuse, industrial wastes, construction wastes, abandoned vehicles, manure, and vegetable and animal solid and semi-solid wastes.

Hazardous waste is defined as "a waste, or combination of wastes, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may either:

FIGURE N-1
Land Use/Noise Level Compatibility Criteria

LAND USE CATEGORY	COMMUNITY NOISE EXPOSURE					
	L_{dn} , dB					
	55	60	65	70	75	80
RESIDENTIAL-LOW DENSITY SINGLE FAMILY, DUPLEX MOBILE HOMES	Normally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable	Clearly Unacceptable
RESIDENTIAL MULTI. FAMILY	Normally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable	Clearly Unacceptable
TRANSIENT LODGING HOTELS, HOTELS	Normally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable	Clearly Unacceptable
SCHOOLS, LIBRARIES CHURCHES, HOSPITALS NURSING HOMES	Normally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable	Clearly Unacceptable
AUDITORIUMS, CONCERT HALLS, AMPHITHEATERS	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Clearly Unacceptable	Clearly Unacceptable	Clearly Unacceptable
SPORTS ARENAS, OUTDOOR SPECTATOR SPORTS	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Clearly Unacceptable	Clearly Unacceptable	Clearly Unacceptable
PLAYGROUNDS, NEIGHBORHOOD PARKS	Normally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable	Clearly Unacceptable
GOLF COURSES, RIDING STABLES, WATER RECREATION, CEMETERIES	Normally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable	Clearly Unacceptable
OFFICE BUILDINGS, BUSINESS COMMERCIAL AND PROFESSIONAL	Normally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable	Clearly Unacceptable
INDUSTRIAL, UTILITIES MANUFACTURING, NON- RESIDENTIAL AGRICULTURAL	Normally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable	Clearly Unacceptable

 Normally Acceptable

 Normally Unacceptable

 Conditionally Acceptable

 Clearly Unacceptable

- cause, or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness, or
- pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported, disposed of, or otherwise managed." (California Health and Safety Code Section 25117).

The discussion of hazardous materials and wastes in the General Plan falls under the authority of Government Code Section 65302(i); the Safety Element.

FINDINGS

Records of hazardous materials generation are maintained by the Hazardous Materials Management Section, California Department of Health Services. Their records show that no hazardous materials were generated in Shasta County in 1976, but that 8, 5, and 22 tons were generated in 1977, 1978 and 1979, respectively. The most hazardous materials generated in the County are associated with mining activities, particularly extraction of copper, gold, and silver ores, bituminous coal, and natural gases. Pesticides and fertilizers are also very hazardous substances.

The three major concerns regarding hazardous materials are their transportation, storage and operational uses.

Transportation

Accidents involving hazardous materials during transport pose threats to public health and safety, particularly when accidents occur along heavily traveled routes such as Interstate 5 and the Southern Pacific Railroad line in Shasta County. Transportation of hazardous materials presents perhaps the highest disaster potential in the County. Regulations regarding the safe transport of hazardous materials and hazardous wastes should be contained in the Shasta County Emergency Plan.

Storage

The disposal and storage of hazardous materials has substantial implications for land use planning, as exposure to such materials may cause present or future adverse health effects.

Effective January 1, 1981, Assembly Bill 2370 (1980) modifies the California Health and Safety Code to give the Department of Health Services (DHS) authority to restrict certain land uses within 2000 feet (the "border zone property") of "hazardous waste property", defined as land where a hazardous waste disposal facility exists or has existed in the past.

If a permit is granted to any of these facilities, and there exists a significant disposal of hazardous waste on-site, the property is Hazardous Waste Property (HWP) by definition. No public hearing must be held prior to designation. The land surrounding these sites and extending up to 2000 feet from the location of disposal is potentially subject to designation as Border Zone Property (BZP).

DHS has recommended that Shasta County inform all applicants for subdivision maps and building permits of the requirement that they must apply for a determination from DHS whether the subject project should be designated as a hazardous waste property or border zone property, if the following conditions exist:

- They are an owner, lessor or lessee of property within 2000 feet of one of the facilities listed above, and
- They plan to construct within the next calendar year a structure to be used for one of the following purposes:
 - A residence, including any mobilehome or factory built housing constructed or installed for use as a permanently occupied human habitation.
 - Hospital for humans.
 - A school for persons under 21 years of age.
 - a day care center for children.
 - Any permanently occupied human habitation other than those used for industrial purposes.

State regulations also provide that if the County knows or has probable cause to believe that any land within the County is a hazardous waste property or a border zone property, then the County may apply to DHS for determination whether the land should be designated under either classification.

DHS regulations prohibit residential land uses including hospitals, day care centers and schools on hazardous waste properties, as well as any new land uses, except where variances are granted. State regulations further prohibit subdivision of such lands except where a subdivision would separate designated hazardous waste property from non-designated property. Land owners of these properties are additionally required to create easements permitting state officials from DHS to enter their lands in order to monitor hazardous waste storage.

State regulations regarding border zone properties are similar to those affecting designated waste properties with the exception that new land uses may occur on these lands without requiring a variance from the State Department of Health Services.

According to DHS records, two possible hazardous waste facilities are located in Shasta County: one in Central Valley and a second in the vicinity of the Shasta General Hospital.

On-site storage of hazardous materials is also regulated by the state through a permit process. An industry which uses corrosive chemicals for example, must obtain a use permit from the Department of Health Services prior to operation. In addition, the industry or hazardous substance user may be required to obtain a conditional use permit from the city and/or county government. Storage or disposal of materials with potentially hazardous impacts on nearby watercourses may also be subject to requirements established by the Central Valley Regional Water Quality Control Board.

Permits for off-site storage of hazardous materials are not required unless the materials in question are "extremely hazardous" as defined by the California Administrative Code.

Use

Hazardous materials are used in many forms and activities throughout Shasta County. The most heavily used substances are herbicides and fertilizers used by foresters and agriculturalists.

Controlling timberland brush is an important issue in Shasta County because of the County's economic dependence on continued timber production. For many years, foresters have used herbicides as part of vegetative management programs designed to prevent brush competition with tree seedlings. Many of the chemicals contained in these herbicides, however, are potentially dangerous air, water, and soil pollutants.

Fertilizers and pesticides used by agriculturalists also pose potential threats to the health and safety of the human and natural environments. Adverse health effects of fertilizers and pesticides are most threatening during periods of heavy rainfall and runoff when these chemicals may be washed off the land into streams and or rivers, creating health hazards for human and wildlife populations both on-site and downstream. Run-off containing these chemicals may also penetrate into the soil profile and eventually contaminate the ground water supplies for many rural residents. (See also the Water and Water Quality Element)

Regulations regarding the use of these hazardous materials are administered by the State Department of Food and Agriculture in conjunction with the State Health Department. Any operation which discharges wastes into water bodies must also meet discharge requirements established by the Central Valley Regional Water Quality Control Board.

OBJECTIVES

- HM-1 Protection of life and property from contact with hazardous materials through site design and land use regulations, and storage and transportation standards.
- HM-2 Protection of life and property in the event of the accidental release of hazardous materials through emergency preparedness planning.

POLICIES

- HM-a Inform applicants for subdivisions and building permits within 2,000 feet of the possible hazardous waste facilities located in Shasta County so they may comply with Assembly Bill 2370.
- HM-b Comply with California Assembly Bill 2370 by identifying potential hazardous waste properties and border zone properties.
- HM-c The Shasta County Emergency Plan shall be revised to address transportation of hazardous materials within and through the County.
- HM-d In accordance with AB 2370, no structures for human occupancy shall be located within border zones of hazardous waste properties.

IMPLEMENTATION

Policy HM-a will be implemented by Board of Supervisors resolution rather than creation of a new zoning overlay district because of the limited number of sites involved. As stated by the policy, the County's responsibility will be limited to notification.

Responsibility for implementing policy HM-b will be the Department of Environmental Health.

Implementation of policy HM-c is self-explanatory.

AIR QUALITY

For an in-depth discussion of air quality, see the Air and Air Quality Element under the Resources Group. The air quality heading has also been included in the Public Safety Element Group because air pollution is a potentially serious environmental health problem. It poses a significant threat to human health and can cause damage to vegetation, animals, and their habitats. Air pollution is also aesthetically undesirable.

Due to topography, wind pattern, and atmospheric stability, the air pollution potential of Shasta County is quite high. While present (1981) air quality problems are not so severe to act as growth constraints, growth patterns over the next 20 years will be strong determining factors of future air quality.

WATER QUALITY

For an in-depth discussion of water quality, see the Water and Water Quality Element under the Resources Group. The Water Quality heading has been included in this element group to emphasize its relationship to public health and safety, as water pollution may lead to serious environmental health problems. Threats to water quality specific to Shasta County include septic tank failure and streambank erosion. While presently considered "good", the water quality of the future is contingent upon the effectiveness of policies and programs designed to protect it. For a more detailed discussion of water and water quality, see the Resources Group and Appendix D.

Resources Group



The Resources Group includes General Plan elements addressing the preservation, management, and utilization of Shasta County's natural resources. The individual elements included in the Shasta County General Plan reflect both required and optional subject areas outlined in the State of California General Plan Guidelines, and are listed below.

- Agricultural Lands
- Timber Lands
- Minerals
- Energy
- Air and Air Quality
- Water and Water Quality
- Fish and Wildlife Habitat
- Scenic Highways
- Open Space and Recreation
- Heritage Resources

As a group these elements address the range of opportunities presented by a diverse County resource base including opportunities for resource management, tourism, recreation, and aesthetic enjoyment. Together, these opportunities contribute to the County's attractiveness and desirability for residence.

These resources are all sensitive in some degree, however, to human activities and, as such, may be destroyed or degraded if not accounted for in the planning process. Thus, while it is important to maintain these resources for their direct and indirect benefits to people (e.g., scenic vistas, recreation, employment), protection and maintenance for their inherent ecological values must be recognized as well.

Elements of the Resources Group are closely related to elements contained in both the Public Safety and Community Development Groups. Issues discussed in the Scenic Highways Element, for example, will have implications for the Community Organization and Development Pattern Elements. Similarly, the Water Quality and Noise Elements present issues which have implications for the Recreation and Fish and Wildlife Elements.

AGRICULTURAL LANDS

INTRODUCTION

Agricultural lands, as defined in this report, encompasses the use of Shasta County lands for the production of crops and the grazing of livestock. Agricultural land uses and activities are important to Shasta County for two reasons. First and most importantly, they are a major component of the County's economic base. Second, they are a major element in defining the quality of life available to the residents of Shasta County. Were agriculture to lose its prominence in the County or to disappear all together, the rural character of County living so valued by its residents and so important to its economy would also decline or vanish.

This element encompasses portions of three mandatory elements—Land Use, Conservation, and Open Space. The pertinent portions of these elements are quoted below.

A land use element... designates the proposed general distribution and general location and extent of the use of land for... agriculture . . . (Government Code Section 65302(a).)

A conservation element for the conservation, development, and utilization of natural resources including . . . soils . . . (Government Code Section 65302(d).)

Open space for the managed production of resources, including . . . rangeland, agricultural lands, and areas of economic importance for the production of food or fiber . . . (Government Code Section 65560(b)(2).)

This element relates the present and future use of agricultural lands within Shasta County to the County's economic base and to the community development pattern discussed in the following element group.

FINDINGS

Contribution to Shasta County

Farming began in Shasta County with the arrival of early settlers. By 1858 almost 6,500 acres were under cultivation in the County. Over a hundred years later, the total land area in farms had increased to 396,223 acres.¹ Agriculture is not the dominant industry in Shasta County, but it does account for a major segment of the County's economic base. In 1980, the total market value of farm products was \$53 million, over 1/3 of which was represented by the sale of livestock and livestock products.²

¹1978 Census of Agriculture, Preliminary Report.

²1980 Agriculture Crop Report, Shasta County Agricultural Commissioner.

In addition to its economic contribution, the agriculture industry is in large part responsible for the rural lifestyle of the County. Farming necessitates a close relationship between the farmer and the land, fosters close relationships with family and community, and encourages self-reliance and independence. These characteristics define a way of life which tends to be assumed by those living in agricultural areas, even though they are not directly engaged in agriculture.

Beyond the social aspects of lifestyle, agricultural lands provide direct benefits to the physical environment.

The effects of farmland on both quantity and quality of water are numerous and widely recognized.¹ A large share of the urban flood problem results from a decrease in areawide infiltration and retention due to paving, building development and drainage of swamps, with the resulting increase in stormwater runoff. Farmland ameliorates these water problems by slowing the rate of runoff and the speed of peak discharge and by increasing the amount of infiltration. While farmland is not as effective at these functions as thickly forested land, it is still greatly superior to reasonably dense and extensively paved suburban areas when proper land management techniques are applied. The second major impact which man has had on water resources concerns the quality of the water. When an area is urbanized, nutrient pollution may decrease somewhat as agricultural runoff lessens, but this pollution is replaced with gasoline and oil products in stormwater runoff and more than equalled by increases in biological wastes from sewer overflows and treatment plant inadequacies.

The maintenance of clean air resources is another environmental process on which farmland use has an important impact. Air pollution is a product of many variables, the most important of which are land use, source location, and meteorology. Since automotive travel is one of the leading causes of air pollution, land use factors which affect the distribution, number, and length of trips are a major determinant of air quality. Considering the processes that determine air quality, the existence of farmland and open space can help in a variety of ways. First, farmland is a substitute for dispersed suburban growth. Dispersed growth patterns increases a major source of air pollution and energy consumption - automobile travel. A second value of the open farm areas of Shasta County is related to the concept of regional air sheds. One theory holds that the land upwind from the city should be kept free of pollution sources in order to provide clean air to ventilate pollutants from the adjacent urban areas. The prevailing wind direction may be utilized in making this determination. Another concept holds that the determining factor in airshed identification is the direction of the wind during periods of inversion. A third consideration is the removal of pollutants by agricultural products, such as alfalfa. Agricultural

¹The following general discussion of the impact of agriculture on water, air, and wildlife habitat is taken from Functional Master Plan for the Preservation of Agriculture and Rural Open Space in Montgomery County, Maryland 1980.

scientists recognize that pollutants are absorbed in the open pores of green plants during daylight hours thereby helping to cleanse the air.

Farmland retention plays an important role in the maintenance of wildlife values through the effects it has on conservation of wildlife habitats. Perhaps the most fertile wildlife habitat is the forest edge or point where forests joins fields, pastures or croplands. Often in such areas (called ecotones) the types of different species and their numbers are much greater than in the communities to either side. As farmland is developed for urban and suburban uses, the available habitat for most field and woodland edge species disappears, resulting in a decline or elimination of their populations.

It is also important to recognize the aesthetic values of farmland. Agricultural lands provide productive, privately maintained open space which creates the open, natural landscape of Shasta County.

Increasing transportation energy costs will in turn increase the prices of food supplies. While total local self-sufficiency in food production may never be a necessity or a possibility, the continued existence of agriculture in Shasta County does provide the option for some degree of local self-sufficiency in food production. In this regard, some interesting facts may be drawn from the 1980 Shasta County Agricultural Crop Report. During this year, Shasta County's agriculture industry produced. . .

- enough milk to provide each resident 1 cup of milk per day
- enough beef for each resident to have 107 pounds per year
- enough wheat for each resident to have 2 slices of bread per day
- enough honey to supply each resident with 3 pounds per year.¹

General Characteristics of Farms

In Shasta County, the number of farms has been increasing and the average size of farms has been decreasing, as shown in Table AG-1. This is the opposite of the national trend toward a smaller number of larger farms, but reflects a phenomenon occurring throughout California and a number of other states, such as Arizona, Florida, Idaho, Oregon, Washington, and Maine. According to the most recent U.S. Census of Agriculture in 1978, approximately 32% of all farms were between 10 and 49 acres in size, as shown by Table AG-2. This in part explains why only 40% of the total land in farms is enrolled in Williamson Act Contracts which under Shasta County regulations must satisfy a minimum acreage requirement of 100 acres.²

¹Shasta County Agricultural Commissioner, letter of June 25, 1981.

²Total Shasta County Acreage Under Williamson Act contracts in FY 1978-1979 was 148,210. Source: State Board of Equalization.

TABLE AG-1
NUMBER AND SIZE OF SHASTA COUNTY FARMS¹

	<u>1978</u>	<u>1974</u>	<u>1969</u>
Number of farms	1,046	778	746
Land in farms (acres)	407,914	391,896	548,494
Average size of farm (acres)	390	504	735

¹To enable 1969 data to be compared with later data, the definition of farm used in this Table is that used in the 1969 Census of Agriculture.

Sources: 1978 Census of Agriculture, Preliminary Report, Shasta County, Page 4.
1974 Census of Agriculture, State and County Data, Page IV-259.

TABLE AG-2
FARMS¹ BY SIZE

<u>Farms by Size</u>	<u>1978</u> <u>Number/%</u>		<u>1974</u> <u>Number/%</u>	
Less than 10 acres	129	16%	118	17%
10 to 49 acres	257	32%	218	32%
50 to 179 acres	176	22%	110	16%
180 to 499 acres	115	14%	101	15%
500 to 999 acres	50	6%	52	8%
1,000 to 1,999 acres	38	5%	37	6%
2,000 acres or more	44	5%	43	6%
Total	809		679	

¹Definition of farm is that used in 1978 and 1974 Censuses of Agriculture which differs from that used in Table AG-1.

Source: 1978 Census of Agriculture, Preliminary Report, Shasta County, page 1.

The size of farms is of importance because of its economic implications for the farm operator, which in turn has implications for land use regulations applicable to farm lands. Discussions of appropriate farm sizes frequently focus on the concept of the economically viable farm unit. This concept has its origins in the Reclamation Act of 1902 and addresses the question of the minimum size farm operation capable of sustaining a household. In Shasta County, and increasingly throughout the United States, the classic definition does not encompass all the complex policy considerations associated with planning for agricultural lands. As will be seen below, there are various types of farm operations in Shasta County, and each has a different definition of viable farm unit. If County agricultural policy were to be based solely on the classic definition of a farm unit as providing some standard of household income, it would be at variance with the present structure of agriculture and trends nationwide. Therefore, it is necessary to examine the characteristics of farm operators.

Characteristics of Farm Operators

The 1978 Census of Agriculture Preliminary Report indicates that farming in Shasta County is largely a family-oriented, owner-operated enterprise. Approximately 89% of the County farms are operated by individuals or families, with partnerships (8%) and family-held corporations (2%) accounting for 10% of farm operations. About 93% of all farms are operated by either full or part owners.

As shown in Table AG-3, 84% of Shasta County farms had sales of less than \$20,000 in 1978. The sales figures in this table are not in constant dollars, so comparisons between 1978 and 1974 are difficult. The important point made by this table is the substantial role in Shasta County agriculture played by lower sales value farms.

Tables AG-4, AG-5, and AG-6 reveal that in Shasta County farm operators are increasingly involved in goods and services operations. Rather than exclusively being producers of goods (agricultural products), farmers provide various services as well. As shown in Tables AG-4 and AG-5, in 1978 60% of all farm operators had a principal occupation other than farming, and 57% of farm operators worked 100 or more days off the farm. Some off-farm work was provided for other farm operations in the form of custom farming services. However, most off-farm work was performed in nonagricultural pursuits, most likely in employment opportunities associated with urban centers.

TABLE AG-3

SHASTA COUNTY FARMS BY VALUE OF SALES

	1978		1974	
	Number/%		Number/%	
Sales of \$20,000 or more	133	16%	97	14%
\$100,000 or more	32	4%	22	3%
\$40,000 to \$99,999	44	5%	36	5%
\$20,000 to \$39,999	57	7%	39	6%
Sales of less than \$20,000	676	84%	582	86%
\$10,000 to \$19,999	87	11%	62	9%
\$5,000 to 9,999	122	15%	83	12%
\$2,500 to 4,999	144	18%	112	16%
Less than \$2,500	323	40%	325	49%

Source: 1978 Census of Agriculture, Preliminary Report.

These statistics suggest that there are three types of farmers in Shasta County. They are:

- the full-time farm operator
- the custom farmer
- the part-time farm operator.

The full-time farm operator is defined as an individual, family, or firm who usually owns the farm he/she operates in Shasta County and who considers agriculture his/her principal occupation. The full-time farm operator requires an area of land of a combined size and quality sufficient to provide the exclusive or primary source of annual income for the entity conducting the operation. This land area, which may comprise several, separate discontiguous units, was typically acquired over a number of years or generations at prices reflecting the ability to produce income. The full-time operator may now be motivated in part by the expectation of capital gain, but was originally motivated primarily by total economic returns from agricultural operations.

The custom farmer is an individual who currently owns or rents and operates a farm in Shasta County.¹ While the custom farmer considers agriculture his/her principal occupation, the farm operation he/she owns or rents does not provide the exclusive source of his/her income. Money earned by performing custom farming

¹This discussion of custom farm operators is drawn from The Impact of the Sonoma County General Plan on Agriculture and Land Values, 1978, prepared by McDonald & Grefe in association with Sedway/Cooke.

TABLE AG-4
PRINCIPAL OCCUPATION OF FARM OPERATORS¹

	1978		1974	
	<u>Number</u>	<u>%</u>	<u>Number</u>	<u>%</u>
Farming	324	40%	286	43%
Other than Farming	485	60%	379	57%

Source: 1978 Census of Agriculture, Preliminary Report.

¹1974 data exclude corporations and other organizations.

TABLE AG-5
FARMS WITH OPERATORS REPORTING
DAYS OF WORK OFF FARM

	1978		1974	
	<u>Number</u>	<u>%</u>	<u>Number</u>	<u>%</u>
Any off-farm work	518	64%	428	NA ¹
100 days or more	434	57%	370	NA

Source: 1978 Census of Agriculture, Preliminary Report.

¹Not available.

TABLE AG-6
FARMS WITH OPERATORS PROVIDING
CUSTOM FARM SERVICES FOR OTHERS

	<u>1978</u>	<u>1974</u>
Number of Farms	53	46
Income	\$296,000	\$84,000

Source: 1978 Census of Agriculture, Preliminary Report.

services for others is an important source of income. It is important to note the critical role played by the custom farmer in the continuity of agriculture in Shasta County. Custom farmers provide services necessary to both full and part-time farm operations. If custom farm services were not readily available to these operations, they would experience diseconomies of production. In turn, the demand for their services enables custom farmers to continue their own farm operations.

Part-time farming is a significant trend in Shasta County and is part of a larger phenomenon occurring in industrialized countries throughout the world.¹ Individuals in this group are much more diverse than the members of the two previous categories and include:²

- The individual with a significant outside income who has invested primarily in a homesite and lifestyle and who may, particularly prior to the Tax Reform Act of 1976, have been motivated by the provisions of the U.S. income tax laws to invest in Shasta County's agriculture.
- The individual who now is employed elsewhere but who intends either during the working years or after retirement to become an active participant in agriculture.
- The individual who has significant capital assets and who seeks a secure investment vehicle for these assets, while at the same time, measuring return in terms of personal satisfaction as well as annual income.
- The family or individual, possibly of rather modest means, who makes a deliberate trade-off between economic return from agriculture and the ability to enjoy both an income and a lifestyle that are clearly and directly the result of individual efforts.

Whatever their particular motivations, part-time farmers make several unique contributions to the agriculture industry of Shasta County. One, because part-time farmers have alternative, non-farm sources of income and are able to farm more intensively, their ability to operate a successful farming operation is enhanced. In many cases, they are able to conduct farming operations on lands which could not be successfully farmed by full-time operations. Two, their presence in the County helps create a climate of public opinion which is sympathetic to the problems confronting full-time farmers. Three, the children of today's part-time farmers may be the full-time farmers of the future.

¹OECD Agricultural Policy Reports, "Part-time Farming in OECD Countries," General Report, Paris, 1978.

²The Impact of the Sonoma County General Plan on Agriculture and Land Values, op cit.

The classification of Shasta County farmers described above is neither exhaustive nor mutually exclusive. For example, it is probably more technically correct to consider the custom farm operator as a type of full-time farm operator. Understanding that the motivations and economic circumstances of each type of farm operator differs from those of the other types demonstrates that there is no uniform definition of "viable farm unit." The land area required by the full-time farmer will generally be larger than that required by the part-time farmer. The agricultural element must recognize these distinctions and provide areas of land throughout the County of sufficient size and resource value so that all types of farm operators may be accommodated.

The previous discussion has explored the general characteristics of Shasta County farms and the classification of farm operators. Agricultural element policies must also address the different agricultural areas and commodities of Shasta County.

Characteristics of Agricultural Areas and Commodities

For the purpose of the Agricultural Element, Shasta County is divided into three types of agricultural areas and subunits within each area, as follows:

- Valleys
 - Sacramento River and tributaries
 - Fall and Pit Rivers
- Foothills
 - Western Uplands
 - Eastern Uplands
- Mountain Meadows
 - Goose Valley
 - Burney Creek Valley
 - Cayton Valley
 - Hat Creek Valley
 - Upper Fall River Valley

Valleys

The valleys of the Sacramento River and its tributaries, including Churn, Cottonwood, Anderson, Stillwater, Cow, Bear, Battle and Clover Creeks, contain some of the most productive agricultural land in the County. Many hundreds of acres of land in these valleys are classified as prime, unique farmlands or farmlands of statewide importance.

Unfortunately, all of these lands are subject to urbanization pressures from the cities of Anderson, Redding, and their associated suburban and rural residential development. Urban services such as community sewer and water and paved County-maintained roads are or could be made available to most of these lands. The classic example is the Churn Creek Bottom area which lies directly to the south of the City limits of Redding and its sewer and water systems and is transversed by Interstate 5 and Churn Creek Road, a County-maintained arterial.

Very little of these agricultural areas are subject to Williamson Act contracts. It is problematic whether this is the result of the

proximity of urbanization, the 100 acre minimum limit currently in effect for Williamson Act contracts in Shasta County, or both. Many of the agricultural lands now under contract have filed notices of non-renewal. The earliest filing date was 1977.

The current primary uses of these lands are for field crops (grain and alfalfa), orchard crops, particularly walnuts and olives, strawberry nursery stock, and irrigated pasture.

In addition to the generally high quality of their soils, agricultural lands in this area enjoy a relatively long growing season of from 172 to 205 days;¹ availability of water from either the Anderson-Cottonwood Irrigation District, Clear Creek Community Service District, surface diversions of streams, or irrigation wells; and excellent transportation access. A 1975 study of the Churn Creek Bottom area concluded that commercial farming operations were generally feasible on parcels of 25 acres or more.² These factors combine to make these lands suitable for full-time and part-time farming operations. In order for these opportunities to be available, the agricultural element must contain explicit policies protecting these lands from urbanization.

The Fall and Pit River Valleys contain agricultural lands of high productivity. At present the Soil Conservation Service is completing its mapping of this area and consequently has not been included in the Prime Farmlands Study. The value of these lands is reflected to some degree by their enrollment in Williamson Act contracts, none of which are subject to notices of nonrenewal. Some of the lands are subject to urbanization pressures from Fall River Mills and McArthur and rural subdivisions, but these pressures are presently limited both in geographic scope and intensity.

The current primary uses of these agricultural lands are for field crops (grain and alfalfa), strawberry nursery stock, and irrigated pasture. In comparison to agricultural lands located in the Sacramento River Valley, lands in the Fall and Pit River Valleys experience a shorter growing season and less precipitation.³ These factors determine the productivity or economic return of these lands, which in turn impacts on their ability to cover the costs of production. A production cost which is becoming increasingly significant in the Fall and Pit River Valleys is energy required for pumping irrigation water. A final factor is transportation which is less accessible here than in the Sacramento Valley.

Foothills

The foothills located in the portion of Shasta County known as the Western Uplands contain some of the best rangelands available in the County. Particularly noteworthy is the area known as the Bald Hills. Some small pockets of land classified as prime agricultural lands are located in the vicinities of Igo and Ono.

¹University of California Cooperative Extension, Agricultural Study of the Churn Creek Bottom Area, 1975.

²Ibid.

³Climate of Shasta County, August 1965.

The primary use of these lands is for the grazing of livestock. Grazing operations in this area enjoy good access to transportation associated with the Interstate 5 corridor and to the Shasta County Auction Yard located in Cottonwood. Almost all of the grazing lands in this area are subject to Williamson Act Contracts. None of these contracts have had notices of nonrenewal filed on them.

Due to the absence of adequate groundwater and other factors, development pressures on these lands have been less intense than in other areas of the County. But this situation could dramatically change with the expansion of the Clear Creek Community Service District, a water district, into this area. Further development in this area would greatly increase the conflicts between ranching and residential land uses. Given their impact on grazing and the cattle industry, it is important to understand the nature of these conflicts.

Persons purchasing homes in agricultural areas generally desire the feeling of openness produced by the relatively larger lots of their homesites and the surrounding agricultural uses and the opportunity to engage in gardening and some animal raising, but not part-time farming as described above. This type of rural residential development presents a number of problems impacting the adjacent lands used for grazing purposes. The discussion of these impacts which follows is also applicable to rural residential development located in cropland areas.

First and foremost, land used for residential purposes is usually unavailable for grazing purposes. Second, certain range management practices and the unavoidable consequences of grazing, such as controlled burning of brush, use of pesticides, tilling of land, noise and odors, and straying animals, adversely affect adjacent residents who in turn petition their elected officials to prohibit or restrict these activities. Third, adjacent residences adversely affect grazing operations by the destruction of fences, harassment and possibly destruction of stock by trespassers and dogs, increased potential for wildfires, and greater demand for limited water supplies. Fourth are the less visible but more significant conflicts related to the impact of rural residential development on land prices. As land is developed or merely subdivided for residential purposes, land prices increase, making it more difficult for ranchers to buy or lease land to maintain or increase the size of their grazing operations. People wanting to enter the grazing industry find that this is not financially possible.

The foothills situated in the Eastern Upland region of Shasta County contain rangelands equal in quality to those located in the Western Uplands, but this area does not contain a large block of excellent rangeland such as the Bald Hills of Western Upland. Several creek valleys, including Little Cow, South Cow, Old Cow, and Clover Creeks, contain lands classified as prime agricultural lands.

The primary use of these lands is for the grazing of livestock. Grazing operations here, like those in the Western Upland, also enjoy good access to the Interstate 5 transportation corridor. Almost all of the grazing lands in this area are under Williamson Act

contracts. Notices of non-renewal have been filed for approximately 2,000 acres situated between Oak Run and Whitmore and for approximately 1,500 acres in the vicinity of Millville.

Development pressures in the Eastern Upland are significant. Conflicts between rural residential uses and grazing operations, as described above, pose a major threat to the economic viability of the latter. The future of grazing in the Eastern Upland will in part depend on policies adopted by the Plan with respect to future rural residential development in this area.

The future economic viability of the rangelands in the Eastern Upland will also in part be determined by the success of the Shasta County Vegetation Management and Demonstration Project (SCVMDP), initiated in 1979. The origins of this program in California can be traced to the disruption of natural rangelands caused by the settlement of California by Europeans.¹

Prior to this time, grasslands were prevalent in the Woodland Foothills along the western slopes of the Sierra and Cascade Mountain ranges. These grasslands were pure stands of grass and oaks with a very small population of brush species in the ecosystem.

Since the establishment of settlements and ranches by Europeans in the early 1700's, there has been a continual and drastic change in the makeup and distribution of California rangelands. The first settlements in the 1700's through 1800's were dependent on livestock (primarily cattle) both for the livelihood of the local community or mission, as well as a revenue producer. A result of man's heavy use of the natural grasslands was the elimination of many native grasses and their replacement with introduced weeds and annual grasses that could not carry as many animals per acre.

The early settlers also relied on large herds of native browsers, primarily antelope, bison and elk, for meat and hides. They not only killed wildlife outright, but altered or removed much of their natural habitat. As a result of the heavy grazing, frequent fires, land clearing, logging and displacement of native wildlife, the Woodland Grassland climax and the low-elevation conifer climax was so disturbed that a secondary succession composed of various brush species became established in what once was timberland and grassland, including the Eastern Upland area of Shasta County.

Exclusion of natural fire since the 1930's, another factor in deteriorating rangelands, has allowed brush species to grow uninhibited, resulting in large tracts of land covered with aged, decadent stands of brush. This vegetative change has not only reduced productive range

¹The following discussion is taken from California Department of Forestry, Shasta County Vegetation Management and Demonstration Project Report, pages 3-6.

in the Eastern Upland, but has also increased the potential for catastrophic fires which threaten not only rangelands and watershed, but prime timberland as well.

Range improvement burning has been practiced in Eastern Shasta County for a number of years both to improve grazing lands and reduce fire hazards. SCVMDP is designed to consolidate landowners and management practices into a coordinated resource management plan. Brush encroachment can be halted in the short run under this project by removal of brush through control burns and/or mechanical and chemical treatment. The benefits of vegetation management to range improvement has been well documented. The University of California Cooperative Extension has an ongoing research program begun in the 1930's in Shasta County to demonstrate the value of brush reduction. Past projects have shown that livestock grazing can be increased three to four times over a six to ten-year period following an initial burn. Other benefits include improved wildlife habitat, increased water yield, reduced soil erosion, and control of the air pollution impacts of brush burning. Long-range control of brush will require that landowners use better management practices; i.e., proper grazing use, fencing, water development, seeding of grasses, soil erosion control and proper class of livestock."

If the SCVMDP proves successful and is applied beyond the current 200,000 acre prospect area, the livestock carrying capacity of the Eastern Upland will be enhanced. This in turn will have major implications for the cattle industry and the larger economy of Shasta County. As discussed above, however, range management practices, such as control burns, do conflict with rural residential uses. This opportunity to enhance the economic productivity of the Eastern Upland will likely be foreclosed in the absence of policies in the Agricultural Element committed to its preservation.

Mountain Meadows

The mountain meadows, located above the 3,000 foot elevation in the northeast region of Shasta County, include the Goose, Cayton, Burney Creek, Hat Creek, and Upper Fall River Valleys. These meadows are irrigated and are used for grazing and growing hay and other crops. About one-half of these lands are under Williamson Act contracts, none of which have filed notices of nonrenewal. With the exception of the Hat Creek and possibly the Burney Creek Valleys, development pressures on these lands are minimal and likely to so remain. The Hat Creek Valley has been extensively subdivided, but future development of the lots thus created will depend on the availability of water, which is subject to question. The Burney Creek Valley lies immediately to the north of the town of Burney and could be served by its water and sewer systems. The development potential of this area is limited, however, by its flooding problems.

Framework for Minimum Agricultural Parcel Sizes

The previous discussion has examined the characteristics of agricultural operators, lands, and commodities in Shasta County. This examination provides the basis for establishing ranges of minimum parcel sizes appropriate to the variety of conditions present in the County. These ranges, which are presented in Table AG-7, provide a framework for plan policies designed to preserve agricultural lands in units of a size capable of supporting agricultural operations.

Table AG-7 presents minimum parcel size ranges for both full and part-time operators. Minimum parcel sizes are expressed as ranges in order to provide some flexibility in their specific application through zoning regulations. When warranted by conditions, parcel size at the larger end of a given range should be required. The smaller end of the range represents the absolute minimum, and these parcel sizes should be applied only in situations where larger sizes are not feasible. It is anticipated that minimum parcel sizes will generally fall in the mid-range.

In the case of the full-time operator, these ranges assume that it would be economically worthwhile to use a parcel falling within this range for the primary use listed. Economically worthwhile means that the economic return on this property is attractive to a full-time operator. The concept of an economically worthwhile parcel size must be distinguished from the concept of a parcel capable of supporting a family. Under this latter concept, the minimum size of a parcel would in most cases exceed the minimum size under the concept of economically worthwhile. It follows that the full-time operator may require more than one parcel of an economically worthwhile size to support a family.

In the case of the part-time operator, these ranges assume that a parcel falling within the listed range would yield an economic return, but this return would not provide a self-sustaining annual family income.

OBJECTIVES

- AG-1 Preservation of agricultural lands of a scale capable of supporting full-time agricultural operations in order to allow the continuation of such uses and to provide opportunities for the future expansion and establishment of such uses.
- AG-2 Preservation of agricultural lands of a scale capable of supporting part-time, but not full-time, agricultural operations in order to allow the continuation of such uses and to provide opportunities for the future expansion and establishment of such uses.
- AG-3 Recognition by Shasta County residents that the preservation of agricultural lands for agricultural uses, both large and small scale, is in the public interest because it preserves local and regional food supplies and is an important contributing industry to the Shasta County economy.
- AG-4 Recognition by Shasta County residents that preservation of agricultural lands, both large and small-scale, provides privately maintained open-space, facilitates a rural life-style, and requires community understanding of the problems facing ranchers and farmers.

TABLE AG-7
MINIMUM PARCEL SIZE REQUIREMENTS

<u>Agricultural Area</u>	<u>Current Primary Use</u>	<u>Recommended Parcel Size Minimums</u>	
		<u>Full-Time Operators</u>	<u>Part-Time Operators</u>
<u>Valleys</u>			
1. Sacramento River & Tributaries	Apiary	80-100	10-15
	Field Crops	50-100	"
	Orchard Crops	30-40	"
	Nursery Stock	40-60	"
	Irrigated Pasture	100-200	"
2. Fall & Pit Rivers	Field Crops	60-120	"
	Nursery Stock	60-120	"
	Irrigated Pasture	160-220	"
<u>Foothills</u>			
1. Eastern Upland	Grazing	750-1250	40-80
2. Western Upland	Grazing	"	"
<u>Mountain Meadows</u>			
1. Goose Valley	Irrigated Pasture	200-300	40-80
2. Burney Creek Valley	Irrigated Pasture	"	"
3. Cayton Valley	Irrigated Pasture	"	"
4. Hat Creek Valley	Irrigated Pasture	"	"
5. Upper Fall River Valley	Irrigated Pasture	"	"

Source: Sedway/Cooke

POLICIES

- AG-5 Protection of agricultural lands from development pressures caused by the provision of sewer, water, roads, and other public services, through the enactment of land use regulations consistent with this objective.
- AG-6 Protection of water resources and safety systems used for agriculture.
- AG-a Agricultural lands in Shasta County shall be classified according to three general categories based on the following criteria:
- Lands capable of supporting grazing by full-time operators, including:
 - Existing grazing lands used for this purpose.
 - Lands which are not now but could be used for this purpose based on resource characteristics (soils, climate, access to water) and compliance with the applicable parcel size minimums of Table AG-7.
 - Land capable of supporting crop production by full-time operators, including:
 - Existing croplands used for this purpose.
 - Lands which are not now but could be used for this purpose based on resource characteristics (soils, climate, access to water) and compliance with the applicable parcel size minimums of Table AG-7.
 - Land capable of supporting grazing and/or crop production by part-time operators, including:
 - Existing lands used for this purpose.
 - Lands which are not now but could be used for this purpose based on resource characteristics (soils, climate, access to water) and compliance with the applicable parcel size minimums of Table AG-7.
- AG-b Agricultural lands shall be preserved for agricultural uses for at least the duration of the planning period of the General Plan (1981-2000), as such period may be extended by future revisions of the Plan.
- AG-c Existing agricultural lands and other County lands as described below shall be reviewed at five year intervals to determine the appropriateness of either their current or potential classification as agricultural lands. The purpose of this review is to reinforce policy AG-b by ensuring that agricultural lands either currently or potentially preserved for agricultural uses merit such special treatment and by providing a systematic, uniform, and equitable process for the periodic review of certain current or potential agricultural lands. This review process shall be used judiciously and shall be the usual process for initiating General Plan amendments pertinent to Agricultural Lands.

This review shall be conducted by the Advance Planning Division of the Planning Department with the assistance of an Agricultural Advisory Committee composed of the following:

- Member, Shasta County Planning Commission
- Representative, Shasta County Farm Bureau
- Representative, Shasta County Cattlemen's Association
- Representative, Intermountain Hay Growers
- Representative, Fall River Big Valley Cattlemen's Association
- Shasta County Agricultural Commission
- Shasta County Cooperative Extension Director
- At-Large Representative appointed by the Board of Supervisors.

Existing agricultural lands and other County lands may be nominated for review as follows:

- By motion of the Agricultural Advisory Committee
- By petition of the owner of such lands
- By recommendation of the Planning Department.

In its review, the Advanced Planning Division and the Advisory Committee shall address the following factors, and any recommendations presented by the Division shall explicitly state their relationship to these factors as follows:

- The local, state, and national interests in the preservation of agricultural lands to assure adequate, healthful, and nutritious food supplies.
- The economic characteristics of existing agricultural operations in the County and the feasibility of alternative, reasonable or comparable agricultural operations to replace uneconomic existing operations.
- The availability of non-agricultural lands to serve the purposes which would otherwise require the conversion of agricultural lands into non-agricultural lands.
- The impact of the conversion of agricultural lands into non-agricultural lands on both adjacent agricultural lands and the agricultural industry of Shasta County.
- The impact of the conversion of non-agricultural lands into agricultural lands on both adjacent non-agricultural lands and the agricultural industry of Shasta County.
- The impact of the conversion of agricultural lands into non-agricultural lands on the costs of County government of providing services to these lands.

- The relationship between the geographic pattern of agricultural land use to the pattern of community development prescribed in the General Plan.

Recommendations developed by the Advanced Planning Division shall be submitted to the County Planning Commission for review and appropriate action, which may include the submission of proposed General Plan amendments to the Board of Supervisors. County residents and property owners, upon payment of the prescribed fee and proper application, may propose General Plan amendments regarding agricultural lands at any time.

AG-d Agricultural lands shall be principally used for grazing or ranching and crop production.

In addition to these principal uses, lands so classified may be used for residential purposes accessory to the principal use. Such accessory residential uses shall be limited to "family member" housing and farm labor housing. Family member housing shall be permitted at a density of no more than four dwelling units per full-time operation and no more than one dwelling unit per part-time operation. Family member residences accessory to full-time operations shall be located in the same immediate vicinity as any preexisting residences, if this is practical and environmentally sound. Family member residences accessory to full-time operations shall normally not be located on separate legal lots created for this purpose. In special circumstances, full-time family member residences in excess of one may be located on separately created legal lots not exceeding five acres in size, but only upon the recordance of a legal instrument extinguishing the development rights on one-fourth of the agricultural lands used by the full-time operation per each family member residence located on a separate lot. This instrument may provide for the restoration of development rights upon the merger of a separately created legal lot with a parcel containing the agricultural lands. Farm labor housing which includes both seasonal and annual employees shall be permitted at the rate appropriate to the type of agricultural operation and shall not be located on separate legal lots created for this purpose. Proposals for the creation of farm labor housing shall require a use permit.

Lands classified as agricultural lands may also be used for low-intensity commercial recreation uses. As used in this context, low intensity commercial recreation uses are defined as uses which will not interfere with the principal uses of lands for agricultural purposes and do not require the construction of substantial improvements, including lodging facilities. Examples of low intensity recreation uses include hunting, fishing, target shooting, riding, hiking, boating, and the exhibition of working farms and ranches.

Lands classified as agricultural lands may be used for mineral exploration purposes which will not permanently interfere with the principal uses of the lands for agricultural purposes.

AG-e Except where agricultural lands border an urban, town, or rural community center as designated in the General Plan, lands adjacent to agricultural lands shall be classified as Rural Residential B.* Dwellings constructed on lands classified as Rural Residential B subsequent to the adoption of the General Plan shall be sited, to the extent practical, to avoid conflict with agricultural operations conducted on adjacent lands. Examples of such operations include, but are not limited to, cultivation of land, use of pesticides, control burns, and odors produced by animal manure. Persons purchasing lands classified as Rural Residential B and other lands located within one-fourth mile of agricultural lands shall be required to include a statement acknowledging the use of these adjacent lands for agricultural purposes in any purchase deposit receipt and in any deed conveying the property.

AG-f Agricultural lands and lands classified as Rural Residential B shall not be served with community water supply systems providing water exclusively for domestic use and community wastewater treatment systems.

AG-g Divisions of agricultural lands shall comply with the following criteria:

- At the time of application for a land division, the entire area of land held in contiguous ownership by the applicant shall be included in the application even though the proposed land division might affect only a small area of the holding.

- Any proposed division of agricultural lands shall require approval by the Planning Commission and Board of Supervisors. Said proposals may be approved, after a public hearing, only upon documentation that the division is necessary for continued full-time or part-time agricultural use of the subject parcels and that the proposed parcel sizes will not be detrimental to the economic viability of agricultural operations on said parcels or adjoining or nearby parcels. Examples of land divisions which may be necessary to allow continuation of agricultural uses include, but are not limited to, land sales or trades between agricultural operations where all lands exchanged will remain in agricultural use; the securing of financing necessary to continue agricultural operations; or the transfer or settlement of estates.

- Any proposed division of lands shall be for exclusive agricultural purposes and may be approved only if all the following conditions are met:

*Rural Residential B has a density of one dwelling unit per 40-80 acres.

- The size of the parcel(s) created shall conform to Table AG-7 with respect to the geographic location of the agricultural lands, their current primary use, and scale of operation.
 - No conflicts with adjacent agricultural operations will result from the division.
 - A Williamson Act contract shall be recorded, prior to filing final maps, for all parcels created from lands classified as capable of supporting full-time agricultural operations.
- Land divisions for the purpose of using the new parcel(s) for non-agricultural uses or for the purpose of dividing off land not usable for agriculture shall not be permitted.
 - Any proposed division shall not be approved except where it is shown that such division will not hamper or discourage long-term commercial agricultural operations.

AG-h All lands classified as agricultural lands shall be placed in an agricultural preserve and shall be eligible to enter into a contract, as provided by the Williamson Act (also known as the California Land Conservation Act of 1965), upon compliance with the following conditions:

The minimum parcel size eligible for a Williamson Act contract shall be those sizes set forth as minimum parcel sizes in Table AG-7.

In addition to the parcel size requirement, the area actually put to an agricultural use as defined in the Government Code 51201 shall not be less than five acres smaller than the required parcel size.

Existing parcels less than the minimum parcel size may be eligible for Williamson Act contracts under some circumstances. Contracts already in existence shall not be affected by the new minimum size requirements. Contiguous parcels under the same ownership may be assembled into parcels that do meet the acreage requirements. Parcels under the same ownership that are not contiguous but are located sufficiently close to one another to be operated as one unit may be awarded a contract provided the contract limits future residential development permitted under the agricultural zoning to only one of the parcels.

Parcels below the minimum size and under separate ownership may be eligible if the owner can show that the income of the parcel qualifies it as a long-term self-sustaining unit. The planning commission shall not approve a contract on this type of parcel unless the Land Conservation Committee finds that the parcel qualifies as a long-term self-sustaining unit. The Land Conservation Committee also must find that the landowner has made at least the minimum level of capital outlays for agricultural facilities appropriate for the type of agricultural operation.

AG-i The site planning, design, and construction of on-site and off-site improvements for non-agricultural development in agricultural areas shall avoid short and long term adverse impacts on facilities, such as irrigation ditches, used to supply water to agricultural operations.

AG-j Environmental review procedures, including Initial Study Checklist and EIR contents, shall be reviewed to ensure they reflect the above policies for agricultural lands.

IMPLEMENTATION

The primary mechanisms for implementing agricultural lands policies will be the zoning and subdivision ordinances. Specifically, new zoning districts will need to be developed to correspond to the three general categories of agricultural lands: full-time grazing lands, full-time crop production lands, and part-time grazing and/or crop production lands. Each district will be a type of agricultural preserve and will incorporate the appropriate revisions regarding principal and accessory uses, as stated in policy AG-d. Finally, each agricultural zoning district, when it is geographically applied, will be broken into subcategories to reflect the minimum size requirements shown in Table AG-7.

Policies governing the subdivision of agricultural lands will be implemented through the subdivision ordinance.

Provisions in the zoning ordinance relative to Williamson Act contracts will need to be revised to conform to policy AG-h.

Policy AG-e will in part be implemented through the General Plan Planning Area maps. Zoning ordinance revisions will be required to implement the policy governing the siting of dwellings on Rural Residential B lands. A new ordinance, which may be incorporated into the zoning ordinance, will be required to implement the provision addressing the notification of persons purchasing lands adjacent to agricultural lands. Policy AG-f, which addresses the extension of community sewer and water services to Rural Residential B areas, will be implemented through subdivision map review. Policy AG-i will likewise be implemented through subdivision map review.

Policy AG-c will be implemented by the Advanced Planning Division of the Planning Department. This division shall take the lead in convening the Agricultural Advisory Committee and developing recommendations for the Planning Commission.

TIMBERLANDS

INTRODUCTION

The Shasta County Timberlands Element combines planning requirements drawn from the Land Use, Conservation, and Open Space Elements mandated by the State of California General Plan Guidelines. Portions of these mandatory elements relevant to timberlands are cited below.

A land use element which designates the proposed general distribution and general location and extent of the use of land for. . . natural resources. . . . (Government Code Section 65302(a).)

A conservation element for the conservation, development and utilization of natural resources including. . . forests. . . the conservation element may also cover. . . protection of watersheds. . . . (Government Code Section 64302(d).)

Open space for the managed production of resources, including. . . forest lands. . . . (Government Code Section 65560(b)(2).)

Parcels zoned as timberland preserve shall be zoned so as to restrict their use to growing and harvesting and to compatible uses and shall be entered as a timber preserve element of the county general plan. (Government Code Section 51115.)

Land dedicated to commercial timbering provides not only building materials, firewood, County revenue, and employment opportunities, but also recreational opportunities, aesthetic enjoyment, and watershed. Continuance of timber operations and preservation of valuable timberlands are thus important to the economic base and the natural resource value of Shasta County. The Timber Element, therefore, accordingly relates present and future uses of timberlands to the natural resource management and economic and community development plans for Shasta County.

FINDINGS

One of Shasta County's most valuable resources are its timberlands. Of the County's 2,428,000 total acres, 50.3% or 1,223,000 acres is dedicated to commercial forest uses.^{1,2} A breakdown of commercial forest land by ownership class is presented in Table T-1. As the table indicates, private timberland holdings are nearly twice those of public agencies, with forest industry and miscellaneous private corporations controlling over 50% of the total commercial timberland in the County. Smaller private operations (farmer-owned and noncorporate holdings) constitute only 13.3% of the total timberland of the County, yet nearly 21% of the total private holdings.

The timber industry is important to the economy of the State as well as the County itself. In 1979, the timber harvest from Shasta County was 248 million board feet and valued at over \$43 million. Compared with other timber producing counties in the State, Shasta ranks sixth in volume and seventh in value (see Table T-2). At the

¹Cooperative Extension - Forestry. University of California. 1979 Forestry Facts (for) Shasta County.

²Commercial timberland is defined as land capable of growing commercial tree species at a rate of 15 cubic feet per acre per year.

TABLE T-1

COMMERCIAL FOREST LANDS IN SHASTA COUNTY BY OWNERSHIP CLASS

<u>Ownership Class*</u>	<u>Acres</u>	<u>Percent of Total</u>
1. National Forest	374,000	30.5
2. Other Public	67,000	5.5
Total Public	441,000	36.0
3. Private Forest Industry	231,000	18.9
4. Private Farmer-Owner	94,000	7.7
5. Misc. Private-Corporate	389,000	31.8
6. Misc. Private-Non Corporate	68,000	5.6
Total Private	782,100	64
7. TOTAL - ALL OWNERSHIPS	1,223,000	100

* Key to ownership classes

1. "National Forest" lands are Federal lands which have been designated by Executive Order or statute as National Forests or purchase units, and other lands under the administration of the Forest Service.
2. "Other Public" lands include lands administered by the Bureau of Land Management (BLM); the Bureau of Indian Affairs; miscellaneous Federal agencies; and lands owned by states, counties, and local public agencies, or lands leased by the governmental units for more than 50 years.
3. "Private Forest Industry" lands are owned by companies or individuals operating wood-using plants.
4. "Farmer-Owned" lands are those owned by operators of farms.
5. "Miscellaneous Private-Corporate" lands are owned by companies or corporations that do not operate wood-using plants. Included are corporate farms, some railroad lands, oil company lands, real estate and land holding company lands, and lands held by banks, other financial institutions and various other companies and corporations.
6. "Miscellaneous Private-Non Corporate" lands are privately owned lands other than forest industry, farmer-owned, or corporate lands.

Source: Cooperative Extension Forestry, University of California, 1979 Forestry Facts - Shasta County.

TABLE T-2
SUMMARY OF CALIFORNIA TIMBER HARVEST¹
May 1981

County, Ranking by Volume	Volume (Thousand Board Feet) ²	Percent of State Total	Dollar Value ³	Percent of State Total	Ranking by Value
1. Siskiyou	510,190	13.04	76,554	10.30	4
2. Humboldt	463,303	11.83	129,159	17.39	1
3. Mendocino	329,854	8.42	83,649	11.26	3
4. Del Norte	294,771	7.53	97,095	13.07	2
5. Plumas	280,149	7.15	46,001	6.19	5
6. Shasta	248,322	6.34	43,072	5.80	7
7. Trinity	240,766	6.15	43,519	5.85	6
8. El Dorado	151,608	3.87	16,965	2.28	12
9. Tehama	139,323	3.55	25,817	3.47	8
10. Tuolumne	136,410	3.48	16,898	2.27	13
11. Sierra	135,156	3.45	22,183	3.00	9
12. Placer	134,651	3.44	22,122	2.98	10
13. Modoc	101,268	2.58	18,058	2.43	11
14. Lassen	99,496	2.54	14,737	1.98	14
15. Butte	85,946	2.19	12,769	1.71	15
		85.56%		89.98%	

¹Derived from "1979 Summary of California Timber Harvest", State Board of Equalization, Property Taxes Department, Timber Tax Division, May 19, 1980.

²Board feet is the quantity cut and scaled - figures are in thousands of board feet.

³Value of timber immediately before cutting - in thousand of dollars.

Source: Cooperative Extension Forestry, University of California, 1979 Forestry Facts - Shasta County.

County level, the 1979 harvest provided \$1.3 million in revenues based on a 3.0% yield tax rate.¹

The timber industry is also a large contributor to Shasta County's employment base. The most recent (1978) statistics available show that approximately seven percent of the County's work force is employed by the lumber and wood products industry, but this figure does not accurately represent the total economic contribution of the County's timber resources. Accounting for the "multiplier effects" of dollars generated by the timber industry, it is directly or indirectly responsible for more than 40% of the County's basic employment,² while wood products alone contribute 51% to the County's manufacturing employment base.³

The strength and importance of Shasta County's timber industry is expected to continue throughout and beyond the twenty (20) year planning period. National demand for softwood timber products is projected to increase 37% by 1990 and 70% by the year 2030.⁴ Based on these estimates it is likely that the demand for timber resources in Shasta County will increase. Further, due to the fact that nationwide demands for timber products are rising faster than available supplies, higher prices for such products can also be expected over the next 50 years. Higher prices have positive implications for the County as they tend to promote more intensive forest management practices and improved utilization of wood products. Price increases also stimulate timber-based employment opportunities.

The nationwide trend in the timber situation is due to two major factors: (1) the post-World War II baby boom of the 1950's and 1960's which created an increase in housing (and lumber) demand, and (2) the gradual loss of timberland to non-timber uses (decreased lumber supply).

In Shasta County, the increase in housing demand reflects an average compound growth rate in excess of 4% through 1985.⁵ This means additional population exceeding 5,000 persons per year. Given these conditions, housing and lumber demands are expected to continue for several years.

¹Op cit.

²McKillop, William, and Kent Connaughton; "Economic Importance of Forest Industries in Northern California." California Agriculture, May 1979.

³Salvador, Jean, Research Analyst, California Employment Development Department.

⁴Mills, T.J., and R. Alig, "Projections of Timber Supplies for the United States: 1976-2030." Proceedings of the Forest Production Research Society; San Francisco, California, October 1979.

⁵Sedway/Cooke; Preliminary Technical Report #2, Population, Employment and Housing Projection for Shasta County, December 1980, p. 5.

Coupled with a growing population is the loss of timberland due to its conversion to other land uses which are incompatible with timber operations and management. Additional losses of timber resources are attributable to parcelization into lot sizes inefficient for economic timber production and public acquisition of timberland for parks and preserves.

Negative impacts of forest practices on surrounding land uses and resources create additional problems for timberland operations. Harvesting practices and the associated noise, dust, and traffic are potentially damaging to air and water resources, wildlife habitats, aesthetic enjoyment, and the health and safety of nearby residences. These problems are magnified as incompatible land uses locate closer to one another. It is thus in the best interest of all that provisions be made in the General Plan to avoid land use conflicts whenever and wherever possible.

Private timberland owners range from the large corporate land owner to the small woodland farmer. While the land use objectives for large-scale timber operators are fairly evident, opportunities and incentives for smaller operators to optimize yields from their lands are less so. For the small noncorporate timberland owner, economic barriers to increased timber production and a limited knowledge of existing timber management opportunities have been recognized as impediments to increasing timber supplies. Greater growth potential may be realized, however, with public education through cost-sharing and/or technical assistance programs. Increased efforts by the County to distribute information regarding improved forest management techniques as well as various sources of assistance for nonindustrial timberland owners should be an integral part of Shasta County's timberland policies.

OBJECTIVES

- T-1 Preservation of timberlands suitable for commercial timbering operations in order to allow for the continuation of such uses and to provide opportunities for the future establishment of such uses.
- T-2 Protection of timberlands from adjacent land uses which are incompatible with timber growing and harvesting activities.
- T-3 The County shall seek to make optimum use of its timber resources in order to maintain a continuous supply of forest products.

POLICIES

- T-a Preservation of timberland shall be achieved by the use of the Timberlands use category. This category shall be applied to lands as follows:
 - Lands now within a Timber Preserve Zone (TPZ) in accordance with the Forest Taxation Reform Act (hereinafter Act).
 - Lands which may be eligible to enter into a TPZ in accordance with the "List C" procedure prescribed in Section 5113 of the Act.

- Lands not contained within either of the above categories which are suitable for timber production.

T-b Timberlands within a TPZ shall be regulated as to use and division into parcels as set forth in the Act. In addition to the permitted uses listed in the Act, the following additional uses may be permitted on TPZ lands subject to obtaining a use permit:

- Living quarters, but only for persons fully and necessarily employed on the premises. Family residences, second homes, and recreational homes shall not be permitted.
- Permanent wood processing installations.

T-c Timberlands submitted for entrance into a TPZ in accordance with the List C procedure shall comply with all requirements of the Act and shall comply with the following additional requirements:

- The land area concerned shall be in the ownership of one person, as defined by Section 38106 of the Revenue and Taxation Code.
- The land area concerned shall be comprised of single or contiguous parcels whose resource value(s) and size(s) comply with Table T-3.

T-d Timberlands not within a TPZ shall be subject to the following requirements as to their use, density of development, and land divisions.

Use

The primary use of these lands shall be for the production and harvesting of timber. Secondary uses of these lands include residential and low intensity recreation uses which do not interfere with the primary use.

Density

Timberlands may be developed at the residential density of one dwelling unit per 40 to 80 acres, depending on site-specific conditions, provided that a pre-existing legal parcel may be developed at the density of one dwelling unit per parcel upon satisfaction of the following conditions:

- Compliance with the 1980 septic tank standards, as amended.
- Compliance with water supply standards designed to ensure an adequate, long-term water supply, including provisions for well monitoring.
- Compliance with access standards designed to provide adequate circulation for the lot(s) to be served, a

TABLE T-3

RESOURCE VALUE AND PARCEL SIZE REQUIREMENTS
FOR LIST C PROCEDURE

Resource Value		Minimum Parcel Size	
<u>Dunning's Site Classification</u>	or	<u>Soil-Veg Site Class</u>	
		<u>Nominal Acres</u>	<u>Portion of Section</u>
I		40	1/16
II		60	3/32
III		80	1/8
IV or V		160	1/2

Source: Sedway/Cooke.

circulation pattern which will not create future access problems and maintenance costs beyond those normally expected, sufficient access for medical, sheriff, and fire protection services, and adequate evacuation routes for residents.

Land Divisions

Timberlands shall not be divided into parcels unable to satisfy the density requirements specified in paragraph 2.

Clustering

New residences located on timberlands shall be sited, including the clustering of units, whenever practical and feasible to minimize conflicts with timber production and harvesting on TPZ lands.

Road Access

New residences located on timberlands shall be accessible by a road or roads meeting one of the following requirements:

- The road is a part of the Shasta County road system.
- The road is located on National Forest lands, and it provides primary access to an original parcel of land.
- The road is located on National Forest lands, and the owner of the parcel on which the residence is located has entered into an agreement with the Forest Service for access.
- The road is located on privately owned land through which the owner of the parcel on which the residence is located has been deeded access.

T-e Land use classifications which are compatible with timberland management activities shall be designated in areas adjacent to timberlands.

T-f The County shall support and promote reforestation, rehabilitation and other forest land improvement practices by:

- Promoting a flow of information on forest management opportunities and assistance for nonindustrial timberland owners. (Financial assistance is available through the Agricultural Conservation Program (ACP) and the federal Forestry Incentives Program (FIP). These programs are administered by the Agricultural Stabilization and Conservation Service (ASCS). Additionally, the California Department of Forestry administers the California Forestry Incentives Program (CFIP). Technical assistance to forest landowners is also available through the University of California Extension Service, the U.S. Soil Conservation Service, the California Department of Forestry, forest product companies, and consulting foresters.)

- T-g Reassessment of the County's timber resources shall be an integral part of the County General Plan update and revision process.
- T-h The County shall encourage and promote the utilization of wood waste produced in the County by commercial timber operations.

IMPLEMENTATION

The County's existing regulations governing TPZ will require revision to reflect policy T-c and Table T-3. A new zoning district will need to be created to provide for timberlands not within a TPZ, as described in policy T-d. Policy T-e will be implemented by the General Plan Planning Area maps.

The remaining policies require no specific implementation, but serve as general guides for County action.

MINERALS

INTRODUCTION

This element establishes policies guiding the use and development of mineral resources in Shasta County. It addresses the mineral-related subjects required by the state mandated Conservation and Open-Space Elements, Government Code Sections 65302(d) and 65560, respectively.

"A conservation element for the conservation, development, and utilization of natural resources including water and its hydraulic force, forests, soils, rivers and other waters, harbors, fisheries, wildlife, minerals, and other natural resources... the Conservation Element may also cover. . . the location, quantity and quality of the rock, sand and gravel resources. (Government Code Section 65302(d).)

The Government Code further requires an open-space element for those open-space lands "used for the managed production of resources including, but not limited to, forest lands, rangelands, agricultural lands... and areas containing major mineral deposits, including those in short supply." (Government Code Section 65560.)

Through their provision of building materials, revenue, and employment opportunities, mineral resources contribute significantly to the economic and resource bases of Shasta County. The Mineral Element is therefore a fundamental and necessary component of the Natural Resources Group as well as the County General Plan as a whole.

FINDINGS

Description of Resources

Shasta County is extremely rich in mineral resources because it is situated at the "intersection" of five geologic provinces: (1) the Coast Range, (2) the Klamath Mountains, (3) the Sierra Nevada, (4) the Cascades, and (5) the Great Valley. Due to this richness of resources, mining has played a significant role in the history and development of Shasta County. The 23 years between 1896 and 1920 were boom times for mining and established Shasta as the leading

mining county in California. By the mid 1920s, however, mining activities diminished due to pollution problems and national economic changes and as yet have not returned to former levels. In 1978, metal mining occurred only at the Washington Mine (lode gold) and the Iron Mountain Mine (copper) in the French Gulch Planning Area.

Along with copper and gold, traditionally the County's most significant mineral resources, 28 other mineral commodities have been mined commercially or occur in potentially economic quantities. Most of the metallic ores lie in Western Shasta County, the French Gulch district being the most important gold producing area of the region. The West and East Shasta Copper-Zinc belts contain the County's principal copper deposits. These belts extend from Iron Mountain northeastward to Backbone Creek, then east to Ingot, a distance of about 30 miles. In the past, mines in these belts have provided approximately 54% of the copper produced in California. This area also contains pyrite, iron and cadmium. Iron, molybdenum, chromite, borite and olivine may also be found in the northwest portions of Shasta County.

Between 1874 and 1929, local coal reserves were also in demand as an energy source for the County. By 1929, however, due apparently to the extensive development of natural gas resources, coal usage had virtually ceased. However, present economic trends, global energy shortages, and a commitment to reduce dependency on foreign oil reserves may reactivate local interests in coal extraction.

The majority of coal deposits are located in the Montgomery Creek Formation east of the City of Redding. The Montgomery Creek coal field has been estimated to be approximately 45 miles square and to contain 1,500 tons of coal per acre foot, making a total of over 12 million tons of coal potentially available in the Montgomery Creek Formation.¹

Other commercial mineral deposits in Shasta County include diatomite, limestone, volcanic cinders and pumice, sand, gravel, and stone. Diatomite is found in considerable quantities near the confluence of Hat Creek and the Pit River (North East Shasta County). Limestone occurs in four belts within the County. The western belt consists of scattered outcroppings west of Shasta Lake. The second and largest belt is located in the vicinity of Gray Rocks, the northernmost section of the SCR planning area. A third consists of lands east of Ingot, extending approximately to the north fork of Squaw Creek, and the last belt is an isolated exposure along route 299E. The Calaveras Cement Company quarry in the Gray Rocks belt is the only currently active limestone quarry, although all four belts have been mined during early parts of the century. Pumice and cinders have been mined from at least 13 intermittently active cinder pits in eastern Shasta County, and because of the importance of these materials in road building as well as other

¹Leeds, Dennison K., "Coal Prospects of Northern California," (prepared for Cooksley Geophysics Inc., Redding, CA) 26 March 1980.

development, demands for these resources can be expected to continue. This is also true for sand and gravel deposits which occur along streambeds, floodplains, and river terraces throughout the County. Currently, sand and gravel are two of Shasta County's principal mineral products.

Mineral Extraction Issues

Although mineral resource development is in many ways beneficial to Shasta County, mining operations often contribute to noise, air and/or water pollution problems, impose hazards to the public health and safety, destroy wildlife habitat areas, and degrade scenic resources. It is thus necessary that Minerals Element policies address the need to (1) protect mineral resources from preemption by incompatible land uses to preserve future resource utilization and management options, as well as (2) protect adjacent resources and land uses from the negative impacts of extractive operations.

Role of State Government

In 1975, the California legislature enacted the Surface Mining and Reclamation Act to ensure prevention or mitigation of the adverse environmental effects of mining, the reclamation of mined lands, and the production and conservation of mineral resources consistent with recreation and watershed, wildlife and range objectives. Under the Act and the Board's regulations, the State Geologist must classify mineral areas of the state threatened by incompatible land uses that would preclude mining as one of four Mineral Resource Zones (MRZ) or a Scientific Resource Zone (SZ) as shown in Table M-1.

The purpose of the classification and designation process is to ensure that mineral deposits are available when needed. Counties and cities containing areas classified as Mineral Resource Zone 2 (MRZ-2) or designated as mineral deposits of regional or statewide significance must amend their general plans to include the state information on the mineral deposits and policies for managing them. The Act outlines the procedures by which the State Geologist classifies areas containing minerals, the Board of Mining and Geology designates deposits, and local governments must amend their general plans (Public Resources Code Section 1720 et seq.).

The State Board's classification of mineral lands statewide will take several years, yet it has established priorities to ensure that mineral lands most likely to be converted to uses incompatible with mining are classified first. No classification has been completed in Shasta County. Prior to state designation, local governments may begin their own classification procedures, and these efforts should be coordinated with the State Board and the State Geologist.

Role of Local Government

The role of local government relative to mineral resources is complicated by factors distinguishing the extraction of these resources from other land uses. Much more than other land uses, mineral extraction is extremely site-specific; it can only occur where the resource exists. Given its recourse dependence, this land use must necessarily end once the resource is exhausted, leaving the problem of appropriate future uses of the former extraction site. From the perspective of the General plan, one of the most troubling factors is the question of the scale of these resources.

TABLE M-1

MINERAL RESOURCES CLASSIFICATION

MRZ-1: Areas where adequate information indicates that no significant mineral deposits are present or where it is judged that little likelihood exists for their presence.

MRZ-2: Areas where adequate information indicates that significant mineral deposits are present or where it is judged that a high likelihood for their presence exists.

MRZ-3: Areas containing mineral deposits, the significance of which cannot be evaluated from available data.

MRZ-4: Areas where available information is inadequate for assignment to any other MRZ zone.

SZ: Areas containing unique or rare occurrences of rocks, minerals, or fossils that are of outstanding scientific significance shall be classified in this zone.

Source: Guidelines, Title 14, California Administrative Code, Chapter 8, subchapter 1, Article II, Section 1(2).

Shasta County contains several areas that potentially meet the requirements of the MRZ-2 classification, as shown in Table M-1. In addition, there are many other areas of the County which contain significant mineral resources which are not threatened by incompatible land uses. The geographic size of these areas varies considerably. In some instances these areas are quite large and can be easily shown on large scale maps; in other cases these areas are relatively small and will appear only on small scale maps. Given these differences in scales as they relate to General Plan maps, the mineral resources of Shasta County are best addressed at two levels of detail.

At one level, the mineral resources land use designation is used on General Plan maps to identify relatively large areas or districts which are or potentially could be used for mineral extraction operations. Typically these areas, in whole or in part, are under the ownership or control of firms engaged in such operations. Since these areas are mapped, it is possible to develop land use patterns in adjacent areas which are compatible with mineral extraction.

At the other level, policies are used to address mineral resource areas too small to appear on General Plan maps. Because these areas are not geographically identified, it is difficult to specify compatible adjacent land use patterns. Instead, the conditional use permit process is used to mitigate land use conflicts. This process cannot work in all instances, such as intensively developed urban areas, and this fact must also be reflected in policies applicable to mineral resource areas too small to appear on General Plan maps.

OBJECTIVES

- M-1 Designation in the General Plan by maps and policies of areas containing mineral resources which may in some instances require protection from land uses which would preempt their exploration and extraction.

POLICIES

- M-a Large scale mineral resource areas shall be subject to the Mineral Resource land use designation. As is appropriate based on the results of mineral resource exploration, additional lands shall be placed in this category, and lands presently subject to this category shall be removed from it. Uses permitted in these areas shall include mineral extraction, processing, and accessory uses.
- M-b Mineral extraction, processing, and accessory uses shall be conditionally permitted in other areas of the County designated as:
- Rural Residential A and B.
 - Natural Resources Protection, except as applied in wildlife habitat areas and park areas.
- M-c Development within and adjacent to Mineral Resource lands shall be regulated so that proposed future land uses will not be incompatible with mineral extraction operations. Potentially compatible land uses are those requiring low public or private investments in structures, land

improvements and landscaping and which allow mining because of the low economic value of the land and its improvements.

- M-d Upon classification by the State Geologist of any land area in Shasta County as one of four (4) Mineral Resource Zones (MRZ) or Scientific Resource Zones (SZ), pursuant to the State Mining and Reclamation Act, the County shall apply the mineral resource category to areas classified as MRZ-2 or SZ to protect such areas from development incompatible with mining.
- M-e All approved mining or mineral extraction operations shall be accompanied by a reclamation plan directed towards the rehabilitation, reuse, erosion control, and water quality protection of mineral resource lands.

IMPLEMENTATION

- Establishment of the Mineral Resource Zone in the Shasta County zoning ordinance. This classification shall be applied to Mineral Resource lands as designated in the General Plan and lands receiving a conditional use permit to conduct mineral extraction operations. This zone shall contain regulations governing reclamation plans.
- Proposed non-mineral land uses in Mineral Resource areas must be approved by the County through the use permit process.

ENERGY

INTRODUCTION

"There is little question that the United States has an energy problem. The growing scarcity of traditional energy sources and the actions of the oil-producing and exporting countries have driven the price of oil, natural gas, and electricity rapidly upward. Price is the barometer to which consumers and governments are most sensitive. With the price of natural gas, electricity, and gasoline rising much faster than the rate of inflation, energy claims a bigger and bigger share of household and government budgets. Conservation, in this context, becomes not just an obligation, but an economic necessity. Because conserving energy now costs far less than purchasing it, measures to achieve conservation can reduce present costs and keep future costs down. Planning now for efficient buildings, land use, and transportation patterns is the best hedge against an uncertain and expensive energy future."¹

¹State of California General Plan Guidelines, Office of Planning and Research, September 1980, p. 191.

Up until the Reagan presidential administration, much of the energy conservation focus had concentrated on state and national policies and programs. At this time, however, local governments are unquestionably the public body which will be most effective in directing energy uses in the years ahead. To a large extent, our national energy situation is no more than an accumulation of local energy trends throughout the entire nation.

The optional energy element is included in the Shasta County General Plan in recognition of this fact. Energy use is an integral part of daily life and has been included as a separate element in order to draw attention to its importance in the planning process. However, because of energy's relationship to daily life, the energy element must be understood within the context of the entire General Plan.

The energy element establishes guidelines for the managed use and conservation of imported energy supplies and discusses the potential for development of locally available alternative energy resources.

FINDINGS

Energy Use Pattern

There are two general types of energy use: operational and embodied. Embodied energy is the energy bound into materials and goods during the manufacturing and construction process. For example, the energy embodied in a house includes the energy used to harvest, mill, and transport the lumber; to produce and transport masonry; and to transport workers to and from the building site. Operational energy is the energy consumed in the day-to-day heating, cooling, and lighting of buildings and the movement of people and goods.

Energy consumed at the point of end use is referred to as delivered energy. In analyzing the energy use pattern of a community or region, it is useful to categorize delivered energy by sector, such as residential, commercial, transportation, etc. The estimated 1980 delivered use by sector in the unincorporated area of Shasta County is shown in Figure E-1. With the exception of the residential and government sectors, each sector represents some combination of operational and embodied energy consumption. This energy use pattern is relatively typical of most communities in that the transportation sector accounts for over 50% of the total energy consumption. In unincorporated Shasta County, the slightly higher percentage consumed by this sector is explained by the rural nature of the area and the consequently longer travel distances from home to work, home to service centers, etc. After the transportation sector, the manufacturing and residential sectors account for an estimated 22% and 18% respectively of total delivered energy use.

Energy Supply Pattern

The supply side of the energy pattern of Shasta County is shown in Figure E-2 which estimates 1980 delivered energy consumption by fuel type. With the exception of a portion of the electricity, these fuel types represent energy derived from sources whose supply is limited and will eventually be depleted. These energy sources are called nonrenewables and are distinguished from renewable energy sources whose supply is unlimited or can be replenished. Solar and wind energy are clearly renewable energy sources. If managed properly, hydroelectric power, wood, and geothermal energy can also

FIGURE E-1
Estimated 1980 Delivered Energy Use By Sector, Unincorporated Shasta County

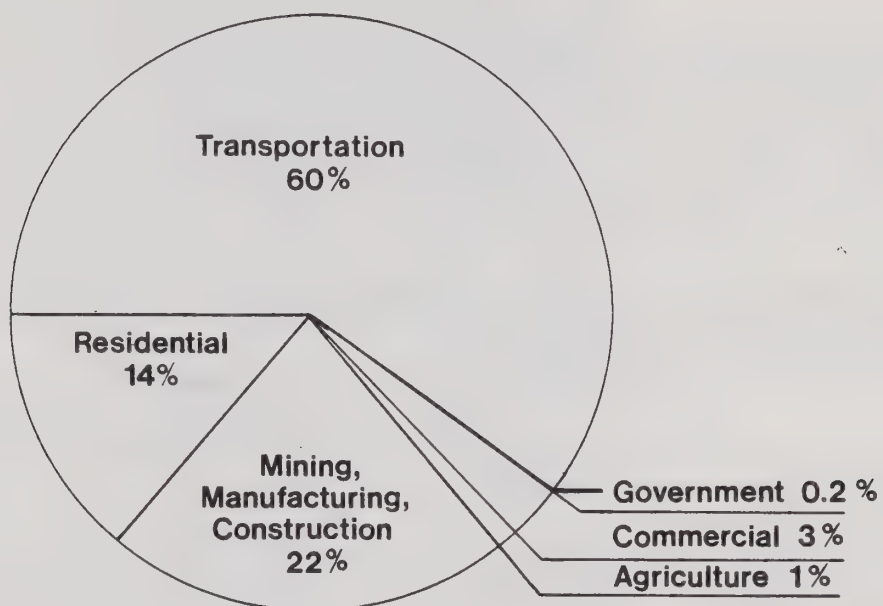
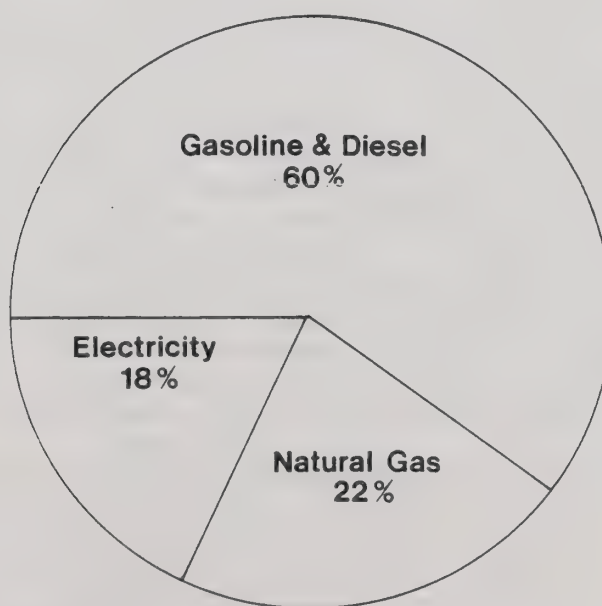


FIGURE E-2
Estimated 1980 Delivered Energy By Fuel Type



Renewable Energy Resources

be considered renewable energy sources. Although the total amount of hydroelectric energy generated in Shasta County vastly exceeds the amount consumed in the unincorporated areas of the County, it is not completely accurate to say that electricity consumption in Shasta County represents the use of a renewable resource. With the exception of the area served by Shasta Dam PUD, Pacific Gas & Electric serves the unincorporated areas of the County. On a systemwide basis, approximately 20% of the power PG&E generates internally comes from hydroelectric. The balance of self-generated power is derived mostly from oil and some small amounts from geothermal and nuclear. PG&E also purchases power from other sources, some portion of which is derived from hydroelectric.

Ignored in the above analysis of the energy supply pattern is the role played by nonrenewable resources which are received on a decentralized on-site basis, as opposed to obtaining them through a utility. These resources include solar, wind, and small-scale hydroelectric. Comprehensive information on their use in Shasta County is not yet available, but indications are that it is increasing. The following discussion explores the renewable resource opportunities of Shasta County, in terms of their current and potential uses.

Solar

The sun is an abundant energy source in most of Shasta County. Table E-1 summarizes average monthly weather data in Redding which represents conditions in valley locations. Table E-2 summarizes weather data for mountain areas, represented by Alturas which is located to the east of Shasta County.

The value of the sun as an energy resource can be expressed most meaningfully in terms of the demand for conventional energy sources that can be displaced by its use. Solar energy can be used directly for space and water heating and for industrial process heat.

The sun is also important as it affects the demand for energy. High summer temperatures in the Sacramento Valley result in a high seasonal peak demand for electricity for space cooling and refrigeration. The impact of solar radiation on the cooling load of buildings can be moderated to a significant extent through building and site design.

Passive solar design for space cooling and heating can reduce the annual primary energy demand of a typical 1,600 square foot, single family detached house in the Sacramento Valley by 90%, from 286 million Btu (equivalent to 2,288 gallons of gasoline) for a house built before 1975 without insulation to 14 million Btu (112 gallons of gasoline) or less. To achieve such energy savings requires nothing more than efficient construction, insulation, 200 square feet of south facing window area combined with a heat-storage mass (e.g., slab foundation) or 1,000 square feet of window area, a roof overhang on the south side, and shade on the east and west sides of the building. Energy used for water heating can be reduced by 50% from 38 million Btu (equivalent to 304 gallons of gasoline) to 18 Btu (144 gallons of gasoline) for a family of four with the use of 64 square feet of solar collectors (two 4 foot by 8 foot panels).

In the mountain areas the energy used for space conditioning could be reduced from 333 million Btu (equivalent to 2,664 gallons of

TABLE E-1: AVERAGE MONTHLY WEATHER, REDDING, LATITUDE 40.2

<u>Month</u>	<u>Average Temperature (F)</u>	<u>Average Swing (F)</u>	<u>Horizontal Insolation (Btu day-ft²)</u>	<u>Wind Speed (mph)</u>	<u>Wind Direction (degrees)</u>
1	45.2	17	671	9.1	11
2	50.0	20	874	9.3	11
3	53.2	21	1,475	9.9	11
4	59.5	25	1,891	9.6	11
6	75.5	27	2,470	9.3	11
7	82.3	31	2,503	8.0	11
8	79.9	32	2,046	7.6	11
9	75.3	31	1,803	7.9	11
10	65.0	26	1,261	8.4	23
11	53.7	21	682	8.6	23
12	46.4	17	571	8.5	23

Source: Sedway/Cooke.

TABLE E-2: AVERAGE MONTHLY WEATHER, ALTURAS, LATITUDE 41.5

<u>Month</u>	<u>Average Temperature (F)</u>	<u>Average Swing (F)</u>	<u>Horizontal Insolation (Btu day-ft²)</u>	<u>Wind Speed (mph)</u>	<u>Wind Direction (degrees)</u>
1	27.8	24.2	682	6.5	0
2	32.0	24.1	955	6.5	0
3	38.4	27.7	1,512	6.5	0
4	45.6	31.7	2,186	6.5	0
5	52.0	33.3	2,614	6.5	0
6	58.9	36.1	2,665	6.5	0
7	66.5	43.1	2,887	6.5	0
8	64.4	45.9	2,614	6.5	0
9	57.1	43.7	1,913	6.5	0
10	47.9	38.2	1,346	6.5	0
11	38.0	29.9	848	6.5	0
12	32.3	25.0	471	6.5	0

Source: Sedway/Cooke.

gasoline) to 31 million Btu (248 gallons of gasoline) as a result of passive design. A 64-square foot solar water heater could reduce energy use for hot water from 42 million Btu (330 gallons of gasoline) to 21 million Btu (168 gallons of gasoline).

Photovoltaic cells which could convert sunlight directly into electricity are expected to become commercially available within 10 or 15 years. Most of the electricity used by a four-member household could be met by a photovoltaic array of less than 400 square feet.

Solar energy can be used in a similar way in the commercial sector for space conditioning, water heating, and electricity and in the industrial sector for process heat and electricity. For example, Heart Federal Savings & Loan Association in Redding uses a solar heating and cooling system. Jhirmack Enterprises, located in the Mountain Lakes Industrial Park, uses active roof-top solar collectors instead of gas-fired boilers.

In order to take advantage of the solar energy resource directly through passive design, water heating, and electricity conversion, it is necessary to locate buildings in areas where solar radiation is not blocked by the topography or by trees. For example, on north-facing slopes of greater than five or ten percent, the availability of sunlight during the winter is likely to be severely constrained. Such locations would require alternative methods of energy-efficient design (e.g., earth sheltering or tighter construction with air-to-air heat exchangers) to achieve the same level of energy use possible with passive design. The same holds true for heavily forested areas.

At the site and neighborhood design scales, solar access to roof tops and south windows could not be blocked by adjacent structures or trees during the heating season. The provision of solar access would not impose a constraint on the density of development. Solar access to the south windows of townhouses at densities of 12 to 18 units per gross acre of development can easily be accommodated at Shasta County's latitude.

In order to preserve the opportunity for using photovoltaics on buildings in the future, a portion of the roofs of new buildings should face within about 45° south or should be flat (e.g., 400 square feet of a 1,600 square foot, single family house).

In the industrial sector, the future use of solar energy would require that adequate land area be provided to accommodate solar collectors or photovoltaic arrays. Land could be provided on a site-by-site basis or consolidated on a single large site for an entire industrial park.

Hydroelectricity

Moving water is one of the most important energy sources for Shasta County. The conversion of moving water to electricity (hydropower or hydroelectricity) provides all the electricity consumed throughout the County. Hydroelectricity is generated at large scale facilities, such as Shasta and Keswick Dams and facilities located along the Pit River, Hat and Battle Creeks, and is also becoming utilized at smaller scales and is referred to as "low-head hydro power."

The interest in hydroelectric generation has been growing at a rapid rate in Shasta County, partially as a response to the increased costs of oil-produced electricity and partially in response to the large potential for low-head hydro projects within the County.

In July 1980 a special governor's task force produced a listing of potential hydroelectric sites throughout California. Potential sites identified in Shasta County include the ACID Diversion Dam at Lake Redding, Musselbeek Dam on Rainbow Lake, McCumber Lake Dam on Battle Creek, and the McCloud Reservoir. Many other potential sites were not identified, including the proposed Cottonwood Creek Dams. It has been estimated that these two dams combined could produce 30 megawatts of electricity per year, enough to serve 21,000 homes.

The increased popularity of small-scale hydroelectric power generation, however, has prompted many companies/individuals to compete for the same sites on which to construct hydroelectric facilities. When such competition occurs, municipalities are by state law granted preference over businesses or individuals by the Federal Energy Regulatory Commission (FERC), the agency responsible for licensing hydroelectric projects. However, landowners or private developers would have energy development priority over all other competitors for low-head hydro projects (less than 5,000 kilowatts), provided that they file their applications before the municipality. Once a project has been licensed by the FERC, the licensee has the right to operate a low-head hydroelectric generator for a specific period of time — usually 25 to 50 years.

Shasta County's intricate network of streams and creeks provides excellent opportunities for the development of small-scale hydroelectric facilities. The environmental impacts of such facilities are variable and not necessarily adverse. Depending on the design of a particular facility, it may actually even improve the environmental quality of waterways by aerating water, thus providing more oxygen for fish and plant populations.

Biomass

Biomass (organic matter) is an indirect source of solar energy. In the form of scrap or waste wood, it is a major energy source for most of Shasta County's lumber industry. A significant opportunity for biomass conversion in Shasta County is the use of wood for home space heating. Wood burning stoves are presently very popular throughout the County and are utilized both as a primary source of home heating and as a back-up resource for electrical usage.

Other biomass conversion opportunities available in Shasta County include the conversion of agricultural crops to liquid fuel.

Wind

Wind machines (windmills) can convert wind energy into mechanical or electrical energy and are used primarily to pump water. The present use of windmills in Shasta County is limited, yet opportunities for greater use of wind power exist in valley and mountain areas of the County.

Cogeneration

Cogeneration involves the use of waste heat (heat generated as a by-product of a process) or waste materials (garbage, wood pulp) to produce heat or electricity.

Cogeneration is currently utilized at the Paul Bunyan and

Roseburg Lumber Companies in Anderson. These systems burn wood wastes generated at the plants to produce steam then used to run turbines which generate electricity. Although this process does not allow these plants to be called self-sufficient, the cogeneration systems do generate enough energy to supply a majority of the plants' power needs during peak demand periods.

Before the turn of the century, cogeneration was a common industrial power source. With the advent of large utility companies such as PG&E, however, energy became available at very low rates and many cogeneration systems were abandoned.

Role of Government

As noted in the introduction to the Energy Element, our nation's energy policy is a reflection of what is being done at the level of local government. There are three general roles which local government may play regarding energy use. One role is for local government to act as an educator, informing and encouraging its citizens as to the benefits of energy conservation and replacing use of nonrenewable resources with renewables. As an energy consumer, government can use its own actions in these areas as models. The benefits of this approach are its relatively low administrative costs and the use of persuasive rather than coercive methods. The disadvantages of this approach are its uncertain impact and vulnerability to public apathy. Local government may elect to act as a provider of incentives, usually financial, to encourage energy conservation. Incentives may take the form of preferential treatment in the permit review process, permit fee waiver, or access to government funding. The third role local government may play involves the exercise of its police power to adopt regulations requiring energy conservation. Such regulations may take a variety of forms and reflect varying degrees of coercion. Since they have the force of law, regulatory approaches will presumably have the greatest chance of success, but administrative and enforcement costs are high.

County Energy Strategy

The above analysis suggests that Shasta County's energy strategy should focus on the major sectors of energy consumption; transportation, manufacturing, and residential; and should recognize the distinction between nonrenewable and renewable energy resources. County government should use all options to develop and implement this strategy, with particular emphasis on public education.

OBJECTIVES

- E-1 More efficient utilization of the County's nonrenewable energy resources.
- E-2 Increased utilization of the County's renewable resource base including passive and active solar, wind, small-scale hydroelectric power, biomass, and geothermal.
- E-3 Conservation of nonrenewable energy resources specifically raw materials, transportation fuels, and land area, through the recovery and recycling of solid waste materials.

POLICIES

- E-a New residential development in urban and suburban areas shall be required to be designed to provide for future passive or natural heating and cooling opportunities.
- E-b Energy conservation and renewable energy resource techniques suitable for use in existing residences shall be publicized by County government through programs offered by the library system. This approach shall be used to publicize related programs sponsored by energy utilities, especially the Residential Conservation Service (RCS).
- E-c In conjunction with cities of Anderson and Redding, the County shall adopt a development pattern in the SCR Planning Area which will facilitate the future development of a transit system.
- E-d At the community level, the County shall adopt land use patterns which reduce the need to travel outside the community for services.
- E-e New employment development shall be encouraged at sites where housing opportunities are accessible.
- E-f County government shall review its energy consumption performance and implement programs designed to increase energy efficiency.
- E-g County government shall promote the development of solid waste disposal sites serving both incorporated and unincorporated areas to enhance the economic feasibility of a resource recovery and recycling program.
- E-h County ordinances and regulations shall be reviewed to eliminate barriers to the use of renewable energy resources.
- E-i Priority shall be given to energy projects and programs that provide jobs and other economic benefits within the County for County residents.
- E-j Education to encourage and facilitate individual action shall be a primary means of achieving energy objectives.

IMPLEMENTATION

Policy E-a will be implemented through subdivision map review to ensure that solar access is provided to the lots created. This policy conforms to the requirements of the California Solar Rights Act of 1978.

Policies E-c, E-d, and E-e will be implemented by elements contained in the Community Development Group.

Policy E-h will require review of the County's zoning and other land use ordinances.

Policies E-b, E-f, and E-g are self-explanatory. Policies E-g, E-i, and E-j are general guides to County action and require no specific implementation.

AIR AND AIR QUALITY

INTRODUCTION

The Air and Air Quality Element presented below addresses the requirements of Government Code Section 65560 b(4) (the Open Space Element) which calls for the establishment of policies and programs designed to protect "open space for public health and safety, including but not limited to . . . areas required for the protection and enhancement of air quality".

In addition to the policies and programs set forth in their General Plans, state and local governments are required to follow the policies, standards, procedures, and deadlines established by the Federal Clean Air Act of 1977. According to this law, each state must prepare an implementation plan to meet the Act's requirements. California's State Implementation Plan (SIP) consists of control measures which are designed to achieve the National Ambient Air Quality Standards (NAAQS) by the legal deadlines and maintained thereafter. Two components of the SIP have particular importance for Shasta County, Non-Attainment Plans and Prevention of Significant Deterioration (PSD).

Non-Attainment Plans

The Clean Air Act amendments of 1977 require the identification of areas which do not meet national air quality standards (NAAQS). These areas are referred to as "non-attainment areas" and require the preparation of a Non-Attainment Plan which must contain legally enforceable measures which will lead to attainment of the federal standards.

Prevention of Significant Deterioration (PSD)

The 1977 amendments to the Clean Air Act also require that the SIP take the measures necessary to prevent significant deterioration of air quality in regions where air quality standards have been met. The legislation establishes three classes for determining how much further deterioration would be allowed in levels of sulfur dioxide and total suspended particulates. Class I areas are allowed the smallest increment of deterioration, and Class III the largest. There are currently two PSD Class I zones in Shasta County: Lassen Volcanic National Park and the Thousand Lakes Wilderness Area.

Good air quality is important to County residents and is one of the factors frequently used to describe their living environments. A clean air environment is not only essential to public health; it also adds to the enjoyment of the scenic beauty of Shasta County.

FINDINGS

Appendix G contains an examination of air quality in Shasta County. Major findings of this appendix are outlined below.

Air Pollution Potential

A key factor in the determination of an area's air quality is its "air pollution potential"; the relative ability of the airshed to dilute and disperse pollutants, based on topography and climate. Air pollution potential is independent of emissions, so that an area with a low potential for air pollution, even if heavily developed, may have better air quality than a lightly developed area with a high potential for air pollution. The factors which affect air pollution are topography, wind, and atmospheric stability.

Due to mountainous terrain, calm winds and fairly stable atmospheric conditions, the air pollution potential of Shasta County is quite high. In a nationwide survey of air pollution potential, the interior of northern California and southern Oregon were found to have the highest potentials for air pollution in the United States. (G.C. Holzworth, Mixing Heights, Wind Speeds and Potential for Urban Air Pollution through the Contiguous United States, U.S.E.P.A., Office of Air Programs, Pub. No. 101, January 1972.)

A common misconception is that air quality problems in the SCR area result solely from the transport northward of polluted air generated in the Sacramento metropolitan area and in other locations between Sacramento and Redding. However, winds in the SCR area blow from the south 8.3% of the time, while the prevailing winds are from the northwest 31.6% of the time. Further, in 1979 the ozone standard was exceeded in Sacramento 25 days per year, in Willows and Chico three days, and in Redding 22 days. If Sacramento was the major source of pollution, this pattern would show a decline in ozone levels as one moves north, rather than the existing sharp drop at Chico and Willows followed by a sharp increase at Redding. Examination of data for suspended particulates also does not reveal a consistent pattern supporting the idea that the Sacramento metropolitan area can be blamed for the pollution in Shasta County.

Current Air Quality

Levels of ozone and total suspended particulates are monitored at several locations by the Shasta County Air Pollution Control District. The state standard for ozone was exceeded on 22 days in Redding in 1979; the federal standard was not exceeded. The state standard for total suspended particulates (tsp) was exceeded at all five (5) monitoring stations in 1979, but for the first time in four (4) years the federal standard was not exceeded. Ozone levels are not measured in the northeast portion of the County which is within the Northeast Plateau Air Basin. This air basin is lightly populated and presumably meets the ozone standard.

Shasta County is currently an "unclassifiable" area for ozone and particulates, meaning that it is neither clearly an attainment area (federal standards have been met) nor a non-attainment (federal standards exceeded) for these pollutants. This borderline designation emphasizes the fact that decisions regarding growth and land use patterns in Shasta County will be strong determining factors of future air quality and air quality classification. The Shasta County Air Pollution Control District has expressed concern that growth and increased auto use may cause Shasta County to become a non-attainment area for ozone (O_3)¹.

¹Dale Watson, Deputy Air Pollution Control Officer, Shasta County Air Pollution Control District, telephone conversation, 7 November 1980.

Pollutants, Standards and Enforcement

The Clean Air Act of 1967, as amended, establishes air quality standards for several pollutants. These standards are divided into primary standards, designed to protect the public health, and secondary standards, intended to protect the public welfare from effects such as visibility reduction, soiling, nuisance, and other forms of damage. The State of California has since adopted its own, more stringent standards, in response to noticeably poor air quality conditions throughout the state. The standards relate to the maximum amount of a specific contaminant (e.g. ozone) which may be tolerated in a given time period (e.g. 1 hour) without creating adverse effects on the public health. Table A-2 describes both the state and federal standards for seven pollutants.

The statewide air pollution control agency is the California Air Resources Board (CARB). The CARB has primary responsibility for air quality planning, and sets standards for motor vehicle emissions. The Shasta County Air Pollution Control District has authority to grant permits for new sources, test and inspect air pollution sources, and issue permits for range improvement, agricultural, forest management, and other types of burning. The District processes citizen complaints on emissions or odors and can enforce its regulations through permit revocation and abatement proceedings.

Future Air Quality

A detailed analysis of future air quality in Shasta County is contained in Appendix G. The major findings of this analysis are presented below.

Projected levels of organic gases, oxides of nitrogen and particulates, assuming the planned rate of growth in Shasta County, far exceed those projected by the Shasta County Air Pollution Control District. This is due to a much higher assumed rate of population growth.

Air quality in Sacramento Valley Air Basin portion of Shasta County can be expected to deteriorate for ozone, particulates and visibility. As current levels are "borderline" with respect to the standards, it appears that maintaining those standards in future years may be difficult. No major air quality problems are foreseen for the Northeast Plateau Air Basin portion of Shasta County.

Shasta County's "unclassifiable" designation with respect to standard attainment for ozone and particulates does not appear to be advantageous. Clarification of the County's status would be helpful for the purpose of air quality planning.

The single most important factor in determining future changes in particulate air quality and visibility will be the construction of unpaved roads in the SCR area. A revision of current road standards for new construction in the SCR area to require paved access roads would be an effective means to avoid future particulate increases. A program to pave existing heavily-travelled unpaved roads is also advisable.

It is recommended that future land uses be arranged to reduce air pollution emissions. In that employment is expected to be concentrated along Interstate 5, concentrating population along this corridor would reduce trip lengths. Concentrating growth in the SCR area has the advantage of encouraging the potential future development of non-auto transportation such as transit, bicycles,

carpooling or vanpooling. Dispersed growth has the disadvantages of long travel distances and its total reliance on automobiles.

Both inside and outside the SCR area, the development of consumer services within local communities would tend to reduce long-distance travel and the resulting vehicle emissions.

OBJECTIVES

- A-1 Recognition of the quality of the airshed of Shasta County as an important aesthetic and health resource which is affected by local land use decisions.
- A-2 Recognition of the primary role of air quality in the preservation of scenic resources.
- A-3 Designation by the State Air Resources Board as an "attainment area" for ozone and total suspended particulates.
- A-4 Protection of the air resources so that all County residents, both now and in the future, can enjoy the health benefits of clean air.
- A-5 Establishment of a Countywide air quality monitoring capability.
- A-6 Recognition that temporary, geographical-specific degradations of air quality are required by range and timber management practices.

POLICIES

- A-a Land use decisions shall be made with consideration given to maintenance and if possible, the improvement of air quality.
- A-b Shasta County shall meet and maintain all state standards for air quality.
- A-c Air quality monitoring station responsibilities shall be expanded to include monitoring of nitrogen oxides (NO_x), carbon monoxide (CO), and hydrocarbons (HC).
- A-d A Countywide Air Quality Emergency Plan shall be developed for implementation when state air quality standards are exceeded.
- A-e All future privately maintained roads constructed in the SCR planning area shall be maintained.

IMPLEMENTATION

Policy A-a will be implemented by other General Plan policies designed to reduce automobile travel and its associated emissions, as well as policies designed to reduce the current degree of usage of dirt roads to serve new development. Policies A-b and A-c will require the expansion of the air quality monitoring and reporting capability of the Shasta County Air Pollution Control District. Implementation of policy A-d is self explanatory. Implementation of policy A-e will require revision of the subdivision standards.

WATER AND WATER QUALITY

Introduction

The topic of water in Shasta County is extremely complex. For this reason, water is discussed in each of the three element groups: Public Safety, Resources and Community Development. Flooding and dam inundation are discussed in the Public Safety Group. Water supply for domestic purposes is discussed in the Community Development Group and Appendix D. Water as a naturally occurring resource and the impacts of human activities on the availability and quality of this resource in Shasta County are the subject of this element.

This element contains a discussion of water resources as required by the state mandated Conservation and Open-Space Elements.

Under the Conservation Element, state law requires:

A conservation element for the conservation, development and utilization of natural resources including water and its hydraulic force . . . (and) rivers and other waters . . . The conservation element may also cover: . . . (3) Preservation and control of the pollution of streams and other waters . . . (5) Prevention, control and correction of the erosion of soils, beaches, and (6) Protection of watersheds (Government Code Section 65302(d)).

Under the Open-Space Element, water resources are designated as open-spaces when considered as any one of the following:

- Open-space for the preservation of natural resources including ... rivers, streams, bays, and estuaries; ... lakeshores, banks of rivers and streams, and watershed lands; (and)
- Open-space for the managed production of resources including ... areas required for recharge of ground water basins, bays, estuaries, marshes, and rivers and streams which are important for the management of commercial fisheries..." (Government Code Section 65560(b)).

FINDINGS

Water Supply

The majority of the water for use in Shasta County is collected in the mountainous regions of the County. Streams, creeks, and rivers carry these surface waters to lower elevations, where they are eventually "stored" in lakes, reservoirs, and groundwater basins. Whiskeytown Reservoir and Shasta Lake are major surface water storage facilities. The U.S. Bureau of Reclamation, at the time of the construction of Shasta and Whiskeytown Dams, acquired substantial appropriative rights from the state. The bureau then entered into contracts for the sale of that Central Valley Project (CVP) water to service agencies in Shasta County and elsewhere. There are currently 14 public and private parties in Shasta County and elsewhere. There are currently 14 public and private parties in Shasta County contracting for CVP water. These contracts cover approximately 254,000 acre feet of water.

There are two groundwater basins within the County, the Redding and Fall River Valley basins, which have been identified as significant sources of groundwater. In addition, water bearing volcanic and alluvial soils are located in the Northeast, Lassen, Eastern Forest, and portions of the Eastern Upland and possibly Western Upland Planning Areas. Water bearing soils provide most if not all of the water used by existing development in these areas. Unlike geographically definable groundwater basins, however, the locations and amount of water found in alluvial and volcanic soils is unpredictable.

Appendix D contains an extensive discussion of the surface and groundwater resources of Shasta County. A major conclusion of this discussion is that the water resources of Shasta County are more than adequate to meet its existing and future needs. The problem is that these resources are not uniformly distributed throughout the County. This fact has major implications for the geographic distribution of future growth, as discussed in the Community Development Group.

Another important conclusion of this Appendix is the lack of precise, quantifiable data on the groundwater resources of the County, including the Redding and Fall River Valley groundwater basins. Safe yields, the maximum quantity of water that can be continuously withdrawn from a groundwater basin without adverse effect, of these and other groundwater basins, are unknown. This has implications for the process by which water is stored in these basins.

Groundwater basins and water bearing soils are recharged (replenished) by the natural process of percolation. This is a process whereby rainwater collects in a water table by filtration through the soil of open lands. Natural features are essential to groundwater recharge, particularly floodplains and streams which pass over gravel or other porous materials. The flat agricultural lands of the Sacramento River Valley (SCR) and the Fall River Valley (NESC) are the most significant areas for this process in Shasta County. It is important that these types of features are preserved in their natural states so that water transfer to ground basins is maintained. Preservation of natural recharge systems is particularly important for Shasta County as there are no human processes to augment them. In many counties where urbanization is widespread, groundwater bodies are artificially recharged using water from reservoirs. Shasta County has not yet experienced a level of growth and development resulting in groundwater overdrafting, and therefore artificial groundwater recharge is not yet justified.

Water Quality

For the most part, surface water quality in the County is very good, as is indicated by healthy fish populations and thriving commercial and recreational fishing activities. Potential hazards to surface water quality include concentration of nitrates and dissolved solids from agriculture, septic tank failures, and run-off from urban areas. During the winter months water pollution potential increases as surface runoff increases due to heavy rains. The additional runoff often carries with it unwanted substances which eventually flow into surface waters. Among these substances are oil and grease from automobiles and streets, sediment from construction sites, litter,

animal wastes, pesticides, and heavy metals such as lead from auto exhaust and other air pollutants.

Along the Sacramento River, chemical and physical water quality is usually within desirable limits for most uses, although quality tends to deteriorate during periods of heavy runoff. Biochemical oxygen demand (BOD) in the river rarely exceeds the 2.5 mg/l desirable limit for domestic uses.¹ High coliform (bacteria) counts are sometimes recorded, however, thus requiring filtration and chlorination of water prior to drinking.

Surface water pollution is also caused by erosion. Excessive grading, vegetation removal, quarrying, logging, and agricultural practices all lead to increased sedimentation and erosion of stream banks, particularly in rapidly moving waters. In slower moving water bodies such as lakes and reservoirs, these same factors often cause a buildup of siltation, which ultimately reduces the capacity of the water system to percolate and recharge groundwater basins.

The quality of water in underground basins and water-bearing soils is also generally good. As these basins or soils are the primary sources of water in the rural upland areas of the County, it is very important to prevent contamination. Potential hazards to groundwater quality include overdrafting (rate of withdrawal exceeds rate of recharge), concentration of nitrates and dissolved solids from agricultural practices, and septic tank failures. The ability of soils to support septic tanks or onsite wastewater treatment systems is generally severely limited in Shasta County, as discussed in Appendix D. Septic tank failures have occurred in Shasta County, but the magnitude of this problem is largely unknown. The County recently adopted more stringent standards regarding their use. These standards have promoted interest in alternatives to the conventional septic tank and leach field.

OBJECTIVES

- W-1 Recognition of the groundwater supplies of Shasta County as a resource which is readily available only in certain parts of the County.
- W-2 Achievement of a better and more complete understanding of the groundwater resources and groundwater management needs of Shasta County.
- W-3 Recognition of the surface water supplies of Shasta County as scarce resources of state and national significance to which the County shall maintain maximum access to preserve options for future County growth and development.
- W-4 Water conservation through the implementation of measures which result in the more efficient use of water.

¹Biochemical oxygen demand (BOD) is a measure of the detrimental effects of organic matter upon a stream. The more organic matter present, the higher the BOD, and the less oxygen available for normal aquatic life processes.

W-5 Protection of the surface and groundwater resources so that all County residents, both now and in the future, are guaranteed an adequate quantity and quality of water.

POLICIES

W-a Areas essential to the recharge of groundwater basins and water bearing soils shall be identified and preserved.

W-b Sedimentation and erosion shall be minimized through control of grading, quarrying, logging, vegetation removal, placement of roads and bridges, use of off-road vehicles, and agricultural practices.

W-c Septic systems, waste disposal sites, and other sources of hazardous or polluting materials shall not be allowed in close proximity to streams, creeks, rivers, reservoirs, or groundwater basins.

W-d The use and disposal of fertilizers, pesticides, herbicides, toxic chemicals and other agricultural/industrial chemicals along watercourses shall be carefully monitored and controlled.

IMPLEMENTATION

Policy W-a will be implemented by the Agricultural Lands Element. Policy W-b will be implemented through policy SG-d. The recently adopted County septic tank standards implement policy W-c. Policy W-d is implemented by state regulations administered by the State Department of Food and Agriculture.

FISH AND WILDLIFE HABITAT

INTRODUCTION

The objectives and policies contained in this element address the need to preserve unique and important fish and wildlife habitats and plant communities for their inherent ecological values, as well as their direct benefits to the citizens of Shasta County. The Fish and Wildlife Element incorporates requirements from the state mandated Conservation and Open Space Elements; Government Code Sections 65302(d) and 65560, respectively. Passages from the above codes dealing with fish and wildlife resources are quoted below:

A conservation element for the conservation, development and utilization of natural resources including . . . fisheries, wildlife, . . . and other natural resources . . . (Government Code Section 65302(d)).

Open space for the preservation of natural resources including, but not limited to, areas required for the preservation of plant and animal life, including habitats for fish and wildlife species; (and) areas required for ecologic and other scientific study purposes . . . (Government Code Section 65560(b)(1)).

FINDINGS

Fish and wildlife habitats and plant communities contribute significantly to aesthetic enjoyment, County based recreation,

income and scientific research. Natural habitat areas are also important to the preservation of ecological balances and environmental quality.

Important wildlife habitats in Shasta County, as identified by the California Department of Fish and Game (CDFG), include ten deer winter ranges, supporting deer herds as well as other flora and fauna species; a key oak-woodland habitat in the Oak Run-Whitmore area; numerous riparian (streamside) communities; and wetland habitats associated with Big Lake and Fall River.

There are three endangered and five rare animal species known to inhabit Shasta County. The term endangered is used to describe species whose existence is jeopardized by one or more causes, including loss of habitat, predation, competition, or disease. Although not presently threatened with extinction, rare species are of populations so small that they may become endangered should their environment conditions deteriorate. The endangered species in Shasta County are the Southern bald eagle, the American peregrine falcon, and the Bull trout. Classified as rare are the wolverine, the Shasta salamander, the California yellow-billed cuckoo, the Sierra Nevada red fox, and the rough sculpin.

The many rivers, creeks, and lakes in Shasta County provide habitat for numerous fish species. The Fall, Pit, and McCloud Rivers support large populations of rainbow and german brown trout, as do Burney, Hat, and Lava Creeks, and the Baum, Crystal and Eastman Lakes. The Sacramento River is famous for its large salmon and steelhead fisheries, plus excellent trout fisheries above and below Shasta Dam. Other game fish in Shasta County waters include black bass, crappie, blue gill, and catfish.

Twenty rare and endangered plant species are also found throughout Shasta County and are listed in Table FW-1.

Most of the geographic areas which support rare or endangered animal species have been mapped by the CDFG and incorporated into the data base maps for the Shasta County General Plan project. Four rare or endangered species, however, are not included on these maps for reasons explained below. The species not included are: the American peregrine falcon, the rough sculpin, the California yellow-billed cuckoo, and foraging areas of the Southern bald eagle.

- Due to the extremely sensitive nature of the American peregrine falcon (endangered) the CDFG has chosen not to reveal their nesting site locations. Department officials have positively identified two active nesting sites in the County, and suspect two others, although these have not yet been confirmed.

- The rough sculpin (rare) is a fish which makes its home in portions of the Pit River, the lower reaches of Hat and Burney Creeks, and the Fall River and its tributaries. More precise locational information is known, although not publicized in order to protect sensitive populations.

- California yellow-billed cuckoo (rare) is suspected to occur along reaches of the Sacramento River within Shasta County yet this assumption has not been confirmed. Consequently, mapping the range of this specie is not possible at this time.

TABLE FW-1

RARE AND ENDANGERED PLANTS OF SHASTA COUNTY

<u>Specie Name</u>	<u>Status*</u>	<u>Locations</u>
<u>Allium hoffmanii</u> (Beegum Onion)	2-2-1-3/ST	Western Upland
<u>Agrosti microphylla</u> (Hendersons's bent-grass)	3-2-1-2/SE	Eastern Upland
<u>Arenaria rosei</u> (Peanut Sandwort)	2-2-2-3/ST	Western Upland
<u>Arnica venosa</u> (Shasta County Arnica)	2-1-1-3/ST	Sacramento Canyon French Gulch Western Upland
<u>Calochortus greeneri</u> (Greene's mariposa)	2-2-2-2/SE	Sacramento Canyon
<u>Calochortus longebarbatus</u> (long-haired star-tulip)	2-2-1-2/ST	North East Shasta County
<u>Calycadenia fremontii</u> (Freemont's calycadenia)	3-2-1-3/SX	Western Upland
<u>Campanula shetleri</u> (Castle Crags hare bell)	3-1-1-3/ST	Sacramento Canyon
<u>Clarkia borealis</u> (Northern clarkia)	3-3-3-3/SE	Eastern Forest Eastern Upland
<u>Collomia larsenii</u> (talus collomia)	2-1-1-2/ -	Eastern Forest
<u>Cryptantha crinita</u> (silky cryptantha)	2-2-2-3/ST	South Central Region
<u>Cypripedium fasciculatum</u> (clustered lady's slipper)	3-2-2-2/ -	Sacramento Canyon French Gulch
<u>Draba aureola</u> (golden draba)	2-1-1-2/ -	Lassen
<u>Haplopappus ophiditis</u> (serpentine macronema)	2-1-1-3/ST	Western Upland
<u>Lilium washingtonianum</u> (Shasta lilly)	2-1-1-3/ST	Big Bend
<u>Limnanthes floccosa</u> (Belinger's meadow foam)	3-2-1-2/ST	Eastern Upland North East Shasta County
<u>Lupinus dalesiae</u> (Quincy lupine)	2-1-1-3/ -	North East Shasta County
<u>Orcuttia tenuis</u> (slender orcuttia)	3-3-2-3/SE,CE	South Central Region North East Shasta County Eastern Upland

<u>Specie Name</u>	<u>Status*</u>	<u>Location</u>
<u>Penstemon filiformis</u> (thread-leaved beard tongue)	2-1-1-3/ST	Sacramento Canyon
<u>Smelowskia ovalis</u> (Mt. Lassen smelowskia)	3-1-1-3/SE	Lassen

Notes

* Status assignments are based on the R-E-V-D Code developed by the California Native Plant Society (CNPS). The Code is a scheme of scoring four components independently. The four components are:

Rarity: This addresses the extent of the plant, both in terms of numbers of individuals and the nature and extent of distribution;

Endangerment: This describes the degree to which the plant is threatened with extinction;

Vigor: This refers to the number of individuals through recent time; and

Distribution: The general range of the plant.

Each component of the code is then divided into three classes, represented by the numbers 1, 2 and 3. In each case, the higher the number, the more critical the concern.

R(Rarity)

1. Rare, but found in sufficient numbers and distributed widely enough that the potential for extinction is low at this time.
2. Occurance confined to several populations or to one extended population.
3. Occurance limited to one or a few highly restricted populations, or present in such small numbers that it is seldom reported.

E(Endangerment)

1. Not endangered.
2. Endangered in a portion of its range.
3. Endangered throughout its range.

V(Vigor)

1. Increasing, or stable in number.
2. Declining in number.
3. Approaching extinction.

D(Distribution)

1. More or less widespread outside California.
2. Rare outside California.
3. Endemic to California.

The second element in the "Status" assignment indicates whether the plant has been included in rare plant inventories of the California Department of Fish and Game or the Smithsonian Institution. The abbreviations are translated as follows:

CE - CDFG endangered plant	ST - Smithsonian Threatened Plant
SE - Smithsonian endangered plant	SX - Smithsonian Extinct Plant

Source: "An Inventory of Rare and Endangered Plants, Wildlife and Critical Wildlife Habitats in Shasta County." Prepared by the Shasta County Environmental Section, April 1981.

Resources by Planning Area

- Bald eagle foraging areas are sites where eagles are known to concentrate while feeding, especially during the winter months. Most of these areas are indicated on the County planning maps. Along the Sacramento River and its tributaries, however, this information has been withheld from publication to protect this sensitive and important foraging area.

All areas within Shasta County support fish and wildlife populations and habitats to some degree. The following section briefly discusses the wildlife resources of each of the ten (10) planning areas. Data presented below was gathered from a variety of sources including the California Department of Fish and Game, the California Native Plant Society, and the California Natural Areas Coordinating Council. These resources have been mapped for each planning area on maps at the same scale as the official General Plan maps.

Sacramento Canyon

Within this planning area lies the 30,000 acre Sacramento River Canyon Deer Winter Range, located along the west side of Interstate 5 in the Sacramento River Canyon. Peak population in December is approximately 1,500 deer. Black bear are also abundant in this area, and intensive development has and will continue to result in bear depredation problems. Bald eagle nests, Shasta salamander habitats, and five rare plant species are also found in this region, particularly in the southern portions and the areas around Shasta Lake.

Shasta Lake Caverns and Castle Crags, two important natural areas identified by the CNACC, are also located in Sacramento Canyon (see Table FW-2).

Northwest Forest

Bald eagle nests and Shasta salamander habitats occur in the southern portions of this planning area, primarily in the vicinity of Shasta Lake, and the endangered Bull trout may be found along reaches of the McCloud River. Natural areas in Northwest Forest include Samwel Cave, a site of unique geologic formations, and the Shasta Lake Salamander Area, a mixed evergreen forest supporting the rare Shasta salamander as well as valuable paleontological information.

Big Bend

The Big Bend planning area contains many excellent trout fishing waters, provides nesting sites for the Southern bald eagle and peregrine falcon, and supports the only population of the rare plant lilium Washingtonianum (Shasta lily) known to exist in Shasta County. Wolverines have also been sighted in the vicinity of Carberry Flat and on U.S. Forest Service lands north of Bald Mountain.

Clark Creek, 1,500 acres of mixed conifer forest identified by the CNACC as a significant natural area, is also located in the Big Bend Planning Region. Portions of two critical wildlife habitats; the Whitmore-Oak Run Critical Wildlife Area (Area 5 on County planning maps) and the Lake Britton Deer Winter Range (Area 6 on County planning maps) also extend into the Big Bend area from North East Shasta County, and are described in more detail below.

TABLE FW-2

SHASTA COUNTY NATURAL AREAS

<u>Name</u>	<u>Planning Area</u>	<u>Description</u>
Anderson/Sacramento River Frontage	South Central Region	Riparian community Abundant animal life (300 acres)
Battle Creek North Fork Site	Eastern Forest	Riparian community. Wolverine sightings. Abundant animal life. (100 acres)
Bear Creek Falls Vicinity	Eastern Upland	Several plant communities. Abundant animal life. Silver salmon spawning area. Fossils found in shale outcroppings. (400 acres)
Bully Choop	Western Upland	Various plant communities. Rare plants. (700 acres)
Castle Crags	Sacramento Canyon	Unique geologic features. Variety of vegetative communities. Rare plant species. Some recreational use. (8,320 acres)
Clark Creek	Big Bend	Mixed conifer forest. (1500 acres)
Devils Rock Garden	Lassen	Volcanic formations, cinder cones. Mixed evergreen forest. (5,300 acres)
Fall River Springs	North East Shasta County	Prime source of Fall River. Freshwater marshes. (50 acres)
Goat Island	Eastern Upland	Oak Woodland. Exotic plant species. Some recreational use. (19 acres)
Hat Creek Area	North East Shasta County	Ponderosa Pine Forest. Stream Habitat. Rare fish habitat. Pliocene lake site. Areas of archaeological interest. (150 acres)

TABLE FW-2 (Continued)

<u>Name</u>	<u>Planning Area</u>	<u>Description</u>
Inwood Manzanita	Eastern Upland	Pine Forest. Large manzanita specimens. (80 acres)
Lack Creek Area	Eastern Upland	Chapparral community. Headwaters of Lack Creek. (730 acres).
Lake Shasta Caverns	Sacramento Canyon	Geologic Formation. Shasta salamander habitat. (5 acres)
Pit River Woodland	North East Shasta County	Pine forest. Chapparral species habitats. Pliocene lake sediments. Pleistocene basaltic flows. (5000 acres)
Pit River Falls Vicinity	North East Shasta County	Geologic formation. Pliocene & Pleistocene volcanic rock. Various plant communities. Rare fish habitat. (1200 acres)
Popcorn and Big Cave	North East Shasta County	Geologic features. (400 acres)
Samwel Cave	Northwest Forest	Geologic formation. Active stalactites, stalagmites "mud glacier", fossils, archaeological materials (100 acres)
Shasta Lake Salamander Area	Northwest Forest	Shasta salamander habitat (rare). Mixed evergreen forest. Paleontological site. (4,000 acres)
Shingletown Ridge Natural Area	Eastern Upland	Cypress Grove. Oak woodland. Chapparral. (520 acres)
Subway Cave	Lassen	Volcanic formation. Rare plant habitat. Some recreational use. (500 acres)

Source: California Natural Areas Coordinating Council; "Inventory of California Natural Areas". 1975.

North East Shasta County

North East Shasta County is extremely rich in wildlife resources. Significant areas identified by CDFG include three deer winter ranges, the Fall River-Big Lake Wetlands, and the unique Whitmore-Oak Run Critical Wildlife Area. Natural Areas located in North East Shasta County include Fall River Springs, the Hat Creek Area, the Pit River Falls Vicinity, the Pit River Woodland, and Popcorn and Big Caves.

The three deer winter ranges; Lake Britton, Cindercone, and Day Bench Ranges, together cover approximately 82,000 acres in the North East Planning Area, and support an estimated 8,600 deer during the winter and spring from mid-October through April.

The Department of Fish and Game (DFG) has expressed concern regarding problems confronting the Day Bench deer herd.¹ Based on a two-year study of deer movement, migration corridors, fall and spring holding areas, summer ranges and seasonal habitat requirements, the DFG has developed land use recommendations for each of the three counties (Shasta, Lassen, Modoc) which support this large herd.

Since the Day Bench area of the North East Shasta Planning Area has experienced a great number of land divisions, the DFG has recommended that no further divisions take place. According to DFG officials, the few remaining large parcels are extremely valuable to deer as they shield deer populations/habitat from the potentially negative impacts of human disturbance.

The General Plan designates the Day Bench area for Rural Residential A land uses, which would allow residential densities ranging from one dwelling per two acres to one dwelling per 20 acres. While this designation is expected to have negative impacts on deer migratory patterns and/or habitat quality, these impacts can be reduced, but not eliminated, by design measures addressing the size and location of lots created by subdivisions, the siting of structures on lots, and the size and placement of fencing and other barriers. Design measures appropriate to development and subdivision proposals are best determined on a case by case basis in which the project proponent works closely with the Department of Fish and Game.¹ Particular attention should be given to the clustering of dwelling units on small lots so that large, commonly owned lots may be created and kept undeveloped for habitat purposes.

The Fall River-Big Lake Wetlands supports numerous springs which eventually give rise to Big Lake, Tule River, and Little Tule River, all of which converge to form Fall River. These waterways

¹ A.E. Naylor, Regional Manager, Region 1, Department of Fish and Game, letter of 6 May 1981 to Sedway/Cooke.

¹ An example of this approach is provided by the proposed Day Pines Subdivision. See A.E. Naylor, Regional Manager, Region 1, Department of Fish and Game, letter of 6 September 1978 to Robert Wall, Shasta County Planning Department.

are lined with riparian vegetation intermixed with meadows and lowland marshes, creating an excellent fish and wildlife habitat. The Fall River Valley itself is Shasta County's most important waterfowl nesting area, for providing habitat over 400 pair of ducks and 135 pair of Canadian Geese annually. Approximately 88 bird species and 67 mammalian species have been identified in this region, and the Fall River itself has been rated as one of the best trout rivers in California, primarily due to exceptional water quality conditions.

The Whitmore-Oak Run Critical Wildlife Area is perhaps the most diversified habitat in Shasta County, and as such the area supports a wide range of wildlife species including many economically important game species. The area is also a migration corridor and feeding ground for approximately 6,000 black-tailed deer.

Two unique natural features are the major contributors to the exceptional resource value of the Whitmore-Oak Run area. The first is a large stand of mature black oak trees which provide excellent forage for many wildlife forms. The second feature is the presence of six major year round streams and tributaries, each supporting valuable streamside riparian vegetation. Combined, these features make this region one of the most productive and valuable wildlife areas in the County.

The Pit River Falls vicinity contains Popcorn and Big Caves, two of the Natural Areas identified by the CNACC, so designated for their unique geologic features. The Pit River Falls vicinity additionally supports various rare fish populations and plant communities. Fall River Springs and the Hat Creek Area, also identified by the CNACC, support important aquatic habitats. The Hat Creek Area is particularly significant as it supports a rare fish habitat (the rough sculpin), riparian plant communities, a ponderosa pine forest, and was a lake site during the Pliocene geologic era. The Pit River Woodland is a virtually undisturbed area supporting a large pine and oak forest. The Woodland area also includes both Pliocene lake sediments and Pleistocene basaltic flows.

Four rare plant species also exist in the North East Planning Area, as do populations of the Southern bald eagle and the American osprey. The osprey has been federally designated as a sensitive specie, yet this bird has not been listed as either rare or endangered in California. A large concentration of osprey nests are located in the northeast region of the planning area surrounding Lava Springs State Park. Wolverines have also been sighted in the vicinity of Pit River Woodland and in the southwest corner of the planning area.

French Gulch

French Gulch contains one deer winter range covering 47,000 acres and supporting approximately 3,300 deer. Bald eagle and osprey nesting areas have been sighted in the vicinity of Whiskeytown Reservoir, and wolverines are suspected to roam Highland Ridge as well as lands along the Shasta-Trinity County line north and west of the Rural Community Center of French Gulch.

Many of the streams and creeks in this planning area support stable trout populations, while bass and other panfish are found in the Whiskeytown Reservoir.

Two rare plant species, Shasta County arnice and clustered lady's slipper, exist in the French Gulch region in the vicinities of Iron Mountain and Buckhorn Summit.

Western Upland

The Western Upland Planning Area contains two zones of the Platina Deer Winter Range. The entire range is approximately 45,000 acres and supports 4,500 deer from October through April. The southeast portion of the range has the highest known concentration of black-tailed deer in Shasta County with an estimated 75 to 100 deer per square mile. The Bully Choop natural area is also located in this planning area and supports many of these deer during the summer months.

Five rare plant communities may be found in the Western Uplands Planning Area. In addition, Cottonwood, Begum, and Jerusalem Creeks support substantial bass, trout and other fishes.

South Central Region (SCR)

Chapparal plant associations predominate much of the upland areas to the west and north of Redding. The flat terrace area to the south of the City of Redding supports the remains of a marginal riparian woodland association which has been substantially cleared for farming and urban development. The most ecologically significant community in the SCR area is the riparian woodland association found along the Sacramento River and its tributaries (the Anderson Sacramento River Frontage Natural Area). This plant community provides habitat for many animals and plants, including two rare plant species. Presence of the riparian woodland association also helps prevent erosion of the Sacramento River banks.

The reach of the Sacramento River in Shasta County is also an important anadromous fish spawning corridor. High sustained river flows controlled by operations at Shasta and Keswick Dams, however, scour the river bottom, eroding essential gravel beds and preventing effective spawning on the river bottom. Further, presence of these dams restricts the movement of gravel down river, thus severely limiting supplies to the south. Anadromous fish populations are also threatened by the removal of riparian vegetation, irrigation diversions, and changes in water temperature due to a variety of river uses. Further, bank protection activities, such as rock riprap designed to prevent erosion of alluvial soils, often adversely affects fish and wildlife habitats as well as the natural beauty of the waterway.

In general, any cause for the disruption of watercourse ecosystems will reduce the habitat diversity of the surrounding region. Cumulative impacts of urbanization can have serious adverse impacts on water resources not only of Shasta County but of the entire Sacramento River basin as well. If properly managed, however, it is possible to provide ample water supplies, protect water quality, and still meet the needs of a growing County.

Bald eagle nests are located along the shores of Shasta Lake and along reaches of the Sacramento River within Shasta County. The peregrine falcon also inhabits the northern Sacramento Valley, and while it does not nest in the SCR, it is sometimes seen foraging the river. Other significant wildlife species which have been identified

in this area are the California yellow-billed cuckoo and the American osprey.

The City of Redding, in cooperation with the CDFG, has mapped an additional 14 areas of environmental concern in the South Central Region. These include ponds, fish spawning areas, nesting and foraging areas, and riparian habitat zones. A detailed map and description of these areas are included in "Existing Conditions and Issues of the Redding Planning Area (1980-2000)" prepared by the Department of Planning and Community Development, August 1980.

Eastern Upland

The Cow Creek Deer Herd migrates through the Eastern Upland Planning Area from November through mid-April of every year. The entire Cow Creek Deer Winter Range, which covers land in both the Eastern Upland and Eastern Forest Planning Areas, hosts an estimated 7,800 animals and covers over 90,000 acres. Portions of the Whitmore-Oak Run Wildlife Area extend into the Eastern Upland region as well (see discussion under North East Shasta County).

Five areas identified as worthy of protection by the CNACC are located in the Eastern Upland Planning Area. Rare and/or endangered plants have been identified along Highway 44 west of Midway and northeast of Manton, Bear, Cow and Battle Creek are among the area's many trout fishing waterways.

Eastern Forest

This planning area supports the eastern portions of the Cow Creek Deer Winter Range described above. In addition, this region provides nesting and foraging areas for the bald eagle and peregrine falcon.

Two rare plant species occur in the Eastern Forest, the northern clarkia, and talus collomia. The Battle Creek-North Fork Site Natural Area located southwest of Shingletown near the Shasta-Tehama County border is an important riparian community and has also been frequented by the rare wolverine.

Lassen

Lassen is perhaps best known for its unique geologic features. Subway Cave and Devils Rock Garden are two areas of particular significance and have been designated by the CNACC as natural areas worthy of preservation.

Two rare plant species, the Mt. Lassen Smelowskia and the golden draba also occur in this planning area.

OBJECTIVES

- FW-1 Recognition and protection of significant fish, wildlife and vegetation resources, including deer winter ranges, fish spawning areas, Bald Eagle nesting and foraging areas, rare, endangered or sensitive wildlife habitat zones, and natural areas and important plant communities.
- FW-2 Recognition and protection of significant watercourses and their associated riparian habitats.
- FW-3 Recognition that wildlife habitat and agricultural and timber management practices may on occasion be in conflict and shall be resolved according to policies specified in the Plan.

FW-4 Recognition that protection of wildlife habitat objectives may on occasion require limitations on public access to the protected habitats.

POLICIES

FW-a The significant fish, wildlife, and vegetation habitat resources of Shasta County shall be recorded on maps maintained at the Planning Department. When lands containing these resources are not otherwise classified using the Timberlands, Croplands, or Grazing Lands designations, they shall be classified on General Plan maps as Natural Resource Protection - Habitat (N - H). Classification of fish wildlife, and vegetation resources as Timberlands, Croplands or Grazing Lands recognizes both the primary use of these lands for these purposes and that these purposes do not necessarily preclude protection of habitat resources. However, on occasion protection of these resources may conflict with agricultural and timber management practices. Such conflicts shall be resolved on a case by case basis in a manner which recognizes and balances the public interests in both habitat resource protection and the sound management of agricultural and timber resources. While prior resolutions of such conflicts shall not be considered as precedents for future decisions, they shall be consulted for guidance in the overall balancing of public interests.

FW-b Land uses within Natural Resource Protection - Habitat areas shall be regulated only to the degree necessary to achieve protection of the resource. Single family residences, low intensity recreation uses, agriculture and timber harvesting uses are permitted. Residential densities shall vary, depending on the nature of the resource to be protected. Residential development in these areas shall also be subject to building siting provisions, including clustering, in order to mitigate the impacts of development on adjacent sensitive resources. Low intensity recreational activities may include hiking, bicycling (non-motorized) nature study, horseback riding, picnicking, boating, and camping. Nesting and breeding areas shall be seasonally closed to such recreational uses, with the exception of nature study.

FW-c Notification of authorities shall be required of all project proposals where significant wildlife resources may be affected. Authorities shall include, but not be limited to, the California Department of Fish and Game, the California Native Plant Society, and the California Natural Areas Coordinating Council.

FW-d Environmental impact reports shall be required of all project proposals which may affect significant wildlife resources. Project approval shall be contingent upon demonstration of adequate mitigation measures for adverse impacts identified by the EIR, or findings of no significant adverse impacts.

- FW-e The use of pesticides and herbicides in concentrated wildlife areas shall be severely restricted or prohibited.
- FW-f The significant river and creekside corridors of Shasta County shall be symbolically designated on General Plan maps. The purpose of this designation shall be in part to identify these corridors and thereby protect their associated riparian habitats. Habitat protection shall be achieved by some or all of the following measures:
- regulation of vegetation removal,
 - design of grading and road construction,
 - establishment of undeveloped set-back or buffer zones of a depth relating to the riparian resource, but no less than 50 feet from the river or creekbank, and
 - the siting of structures, including clustering.
- FW-g Public projects (dams, reservoirs, etc.) shall be designed to avoid adverse impacts on significant river and creekside corridors.
- FW-h Development projects along the Sacramento River and important creekside corridors in the SCR Planning Area should strive to provide multiple land uses such as parks, open space preserves, trails, and related uses consistent with riparian habitat protection.

IMPLEMENTATION

Policies FW-a, FW-b, and FW-h will require the development of several new zoning districts, each responsive to a particular wildlife resource or habitat such as deer winter range, bald eagle nesting site, and riparian corridor.

Policies FW-c and FW-d will be implemented through the environmental review process.

Policies FW-g and FW-h are general guides for County action and do not require specific implementation.

SCENIC HIGHWAYS

INTRODUCTION

The Scenic Highways element is required "for the development, establishment, and protection of scenic highways..." (Government Code Section 65302(h)), be they state, county or local. The element must also be consistent with the provisions of the Streets and Highways Code Division 1, Chapter 2, Article 2.5, and Public Utilities Code Section 320.

Definitions

The term "scenic highways," as used in this element, refers to any freeway, highway, road, street, boulevard or other vehicular right-of-way which traverses an area of unusual scenic quality. An "official scenic highway" is a scenic highway which has been designated by the County Board of Supervisors and/or the State of California, according to a procedure which is discussed below.

The visible land area outside the actual right-of-way is generally described as the "viewshed" or the "scenic corridor." The corridor encompasses the land easily visible from the highway. Depending on topography and air quality, the physical dimensions of the corridor may vary considerably.

There are generally three types of scenic highway corridors:

- Corridors in which the natural environment is dominant.
- Corridors in which the manmade or built environment is dominant.
- Corridors which provide an interesting contrast between the man-made and natural environment.

It is the visual quality of the man-made or natural environments within a scenic corridor that are responsible for its scenic value. Commonly, the physical limits of a scenic corridor are broken down into foreground views (zero to one quarter mile) and distant views (over one quarter mile). In addition to distinct foreground and distant views, the visual quality of a scenic corridor is defined by special features, which include:

- Focal points - prominent natural or man-made features which immediately catch the eye.
- Transition areas - locations where the visual environment changes dramatically.
- Gateways - locations which mark the entrance to a community or geographic area.

FINDINGS

Because Shasta County contains two major river valleys, the Sacramento and the Fall, and three major mountain ranges, the Coast, Klamath, and Cascade, its scenic resources are both varied and remarkable. Virtually every highway in Shasta County is a scenic highway. However, some scenic highways are more important than others based on the visual quality of their scenic corridors, the degree to which highways are used, and vulnerability of corridors to degradation of visual quality.

Description of Scenic Corridors

Applying these criteria to Shasta County, the scenic highways addressed by this element are shown in Figure SH-1 and are discussed individually below.

Route 299E Corridor

This corridor links the Sacramento and Fall River Valleys and changes its character several times along its course. At the corridor's eastern origin, it provides the gateway or entrance to Shasta County and the Fall River Valley. Mount Shasta and other closer prominent topographic features provide focal points. Traveling southwest, the character of the corridor is one where the natural environment of the Valley provides the backdrop for the communities of McArthur and Fall River Mills. At Haney Mountain,

this character changes in two dimensions. One, the natural environment changes from valley to mountains, and two, the built or man-made environment is left behind. The natural environment remains dominant until east of Johnson Park. Here the man-made environment again becomes evident, but only within the context of the natural environment. East of Burney, Hatchet Mountain Pass acts as a gateway to the northeast region of the County. Here again the character of the 299E Corridor changes as the natural environment becomes dominant and remains so until Bella Vista. The built environment reasserts itself, especially as one approaches the Redding urban area, but the natural environment is never overcome.

Route 89 Corridor

The character of this corridor is defined throughout its entire length by the natural environment. Depending on the direction of travel, views of Mount Shasta and Mount Lassen, as well as other topographic features, provide focal points. This corridor encompasses a significant portion of Lassen Volcanic National Park, a scenic asset in itself, and also provides a link between it and McArthur/Burney Falls State Park.

Route 44 Corridor

This corridor functions as the major transportation link between Interstate 5 and Lassen Volcanic National Park. As the principal access to this major tourist destination, the scenic value of this corridor is extremely important.

Beginning in Redding, the character of the built environment predominates. East of Cow Creek, this character changes to rolling grasslands and the natural environment becomes dominant. A few miles to the west of Shingletown, the character of this corridor again changes with an increase in elevation and a change in vegetation from grasslands to forest. Throughout its entire length, Mount Lassen provides the focal point for eastbound travelers and a visible destination point for tourists.

Route 299W Corridor

This route provides the major access to Whiskeytown National Recreation Area (NRA) from Interstate 5. Immediately to the West of Old Shasta, the character of this corridor changes to one in which the natural environment is dominant. Much of this corridor lies within the boundary of the NRA and provides exceptional views to Whiskeytown Lake.

Route A16 (Placer Road) Corridor

Compared with other scenic corridors, this corridor is the least heavily traveled and contains the least evidence of the presence of man. To the west of Centerville its natural character immediately becomes dominant and continues throughout its length. The Bald Hills provide a focal point to the south of this corridor.

Interstate 5 Corridor

Interstate 5 is an important statewide and interstate transportation corridor. It provides the major access to the County and to the other highway corridors described above. This corridor is divided into two distinct units of approximately equal length.

FIGURE SH-1
Scenic Highways

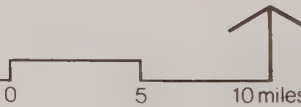
- Corridor in which natural environment is dominant
- Corridor in which natural and man-made environment contrast
- Focal point
- Gateway
- Transition
- State routes eligible for official scenic highway designation



General Plan Revision Program: SHASTA COUNTY, CALIFORNIA

SEDWAY/COOKE, Urban and Environmental Planners and Designers

This map shows generalized data. Detailed maps are on file with the Shasta County Planning Department.



The southern half of this corridor begins at the gateway to Shasta County where I-5 crosses Cottonwood Creek. Traveling north, views contrast the Anderson and Redding urban areas with surrounding mountains. On clear days, Mount Shasta and Mount Lassen may be viewed simultaneously from this corridor. After crossing the Sacramento River, the corridor proceeds northward to a transition point where the man-made environment ends and the natural environment begins. This transition point is marked by abrupt changes in topography and vegetation from valley grasslands and scrub oaks to mountain forests. In addition to its visual significance, this transition point is the entrance to the Shasta-Trinity National Recreation Area (NRA). For tourists traveling to the NRA, this point marks the start of their recreational experience and presents their first impression of what awaits them within the NRA.

Prior to reaching this transition point, this scenic corridor branches out to the west through Central Valley to Shasta Dam, a tourist destination and focal point of the scenic corridor. The scenic value of this corridor is the contrast it provides between Shasta Dam and Lake and the surrounding natural environment.

North of the transition point at the entrance to the NRA, the natural environment of the Sacramento Canyon dominates the I-5 scenic corridor. Mount Shasta and Castle Crags provide focal points at various times along the corridor, while the Sacramento River is a continuous visual element. This segment of the I-5 scenic corridor provides an extremely important and unique visual experience. At South Dunsmuir, the corridor again changes character as the built environment becomes more evident. This transition point also marks the gateway to Shasta County for southbound traffic.

Value of Scenic Corridors

Scenic corridors make major contributions to the quality of life enjoyed by the residents of Shasta County. The development of community pride, the enhancement of property values, and the protection of aesthetically pleasing open spaces reflecting a preference for the rural lifestyle are all ways in which scenic corridors are valuable to County residents.

Scenic highways and their associated corridors also strengthen the tourist industry of Shasta County. For many visitors, highway corridors will provide their only experience of Shasta County. Enhancement and protection of these corridors ensures that the tourist experience continues to be a positive one and, consequently, provides support for the tourist related activities of the County's economy.

Scenic Corridor Issues

In order to ensure present and future protection of the County's scenic environment, unsightly land uses which impair the visual quality of scenic highways should be controlled. Undesirable land uses might include construction of large buildings or facilities or the siting of billboards or other off-premise signs. Both of these actions tend to conflict with the surrounding natural environment and restrict views of distant features such as mountains and lakes.

Shasta County is fortunate in that current land uses along its scenic highways rarely conflict with the visual quality of associated corridors. This is largely due to the fact that current preferences for the rural lifestyle in many areas of the County have resulted in a

development pattern which for the most part respects natural features and landscapes.

Future impacts of development on visual resources along scenic highways will depend primarily upon decisions regarding the type, design and siting of future land uses. While a dramatic increase in development pressure along scenic highways is not anticipated, the General Plan should nevertheless provide for their continued protection and enhancement for the duration of the planning period.

A major objective in planning for the protection and enhancement of scenic highways should be the achievement of a balance of interests between different "users" of scenic corridors. While scenic highways and their associated viewsheds offer visual amenities for those who travel there, the value and importance of scenic corridors for those who live and work along them extends beyond visual significance.

Prime examples of potentially conflicting interests are the motorist and the resource manager (timberland owner or agriculturalist). Many resource management activities such as clear cutting on timberlands or brush burning for grazingland improvement purposes create adverse visual impacts along scenic highways. Considering the "life" of a scenic highway, however, these impacts are minimal; clear cut areas are reseeded, and blackened fields quickly return to their natural states. Natural resource management activities such as timbering and agriculture are uses which contribute to the long-term beauty of a scenic corridor and should not be precluded along scenic highways based on short-term adverse impacts.

Approaches to Protecting Scenic Corridors

There are two approaches to the protection and enhancement of scenic highways: at the County level and at the state level. Both approaches are outlined below.

County Level

The primary mechanism available for scenic highways protection at the County level is the land use plan, that section of the general plan which guides commercial, residential, and industrial land uses and densities. In order to be an effective tool in scenic highway and corridor preservation, the land use plan should reflect a balance between resource protection and community desires.

Additional means by which the visual quality of scenic highways is preserved are by administrative guidelines regarding the siting and design of new structures within scenic corridors. These guidelines would be used to direct new development in such a way as to maximize harmony with scenic resources and minimize negative impacts on a corridor's visual quality.

State Level

In 1963, the California State Legislature established the California Scenic Highway Program (SB 1467) in recognition of the desirability of preserving scenic corridors for the enjoyment of future generations. Passage of this bill gave the State of California Department of Transportation (CALTRANS) the responsibilities of administering and coordinating a scenic highways program and of officially designating state and county highways as scenic

highways. "Official" status is granted after completion of: 1) a scenic highways element of the local general plan; 2) a corridor survey and highway facilities study (prepared by the State if a state highway and by the County if a county highway); and 3) a specific plan and program designed to protect and enhance the scenic corridor (to be prepared by the local government having jurisdiction over lands adjacent to an eligible scenic highway). The specific plan and program guidelines require that the protection program take:

. . . such action as may be necessary to protect the scenic appearance of the scenic corridor, the band of land generally adjacent to the highway right-of-way, including but not limited to 1) regulation of land use and intensity (density) of development; 2) detailed land and site planning; 3) control of outdoor advertising; 4) careful attention to, and control of earthmoving and landscaping; and 5) the design and appearance of structures and equipment." (Streets and Highways Code, Chapter 2, Article 2.5, Section 261).

If the local jurisdiction's program is satisfactory, the CALTRANS Director will designate the highway as an official scenic highway. The highway will then be identified by state scenic route signs ("poppy" signs) and included on State maps distributed throughout California. In September, 1981, the portion of Shasta Dam Boulevard and Shasta Dam received official state designation as a scenic highway.

The General Plan Approach

The appropriate approach for scenic corridor protection in Shasta County should incorporate state and county level protection measures. Further, the amount of protection should be tailored to balance the need for scenic corridor protection, based on resource value, with the County's demand for corridor preservation.

As all routes vary in terms of viewshed quality and protection needs, it would be impractical to develop a County land use plan and policies which address all existing situations. Therefore, at the County level, administrative guidelines should be developed which would direct new development in such a way as to minimize land use conflicts while maximizing potential scenic value along the corridor. The administrative guidelines system should be general enough to apply to any combination of land use and resource characteristic, yet specific enough to provide the degree of protection necessary and desirable for preservation of the scenic corridor. Guidelines should regulate new development along scenic corridors in terms of allowable land uses and densities, development siting, and structural design and landscaping. Outdoor advertising guidelines, both on and off-premise should also be developed and applied where necessary for scenic corridor protection.

Requests to the State Department of Transportation for official designation of state scenic highways should be submitted when necessary and desired by the County.

OBJECTIVES

SH-1 Protection of the natural scenery along the highways of Shasta County from new development which would diminish the aesthetic value of the scenic corridor.

SH-2 New development along scenic corridors shall be designed to relate to the dominant character of the corridor (natural or natural and man-made contrast) or of a particular segment of the corridor. Relationships shall be achieved in part through regulations concerning building form, site location, and density of new development.

SH-3 Recognition that the management practices of agriculture, timber and other resource-based industries, which may cause degradation of the visual quality of the scenic corridor, are necessary and their impacts temporary.

SH-4 Encourage coordination of scenic highways planning with County, State, and national parks departments; trail planning groups; and other recreational interest groups.

POLICIES

SH-a Administrative guidelines shall govern new development within scenic corridors dominated by the natural environment. These guidelines shall protect the value of the natural and scenic character of the corridor through siting and building design guidelines, including but not limited to:

- building clustering
- setback requirements
- regulations of building form, material and color
- landscaping with native vegetation
- siting of new structures to minimize visual impacts from highway.

SH-b Utility lines shall be undergrounded wherever possible and particularly along portions of scenic highways dominated by the natural environment. Where undergrounding is not practical, lines should be sited in a manner which minimizes their visual intrusiveness.

SH-c The type, size, design and placement of signs shall be compatible with the visual character of the immediate surroundings. The County's sign regulations should be redrafted for the following situations:

- timberlands and forest areas
- croplands and grazinglands
- Rural Community Centers
- Urban and Town Centers.

SH-d Placement of off-site advertising, such as billboards, should be limited to Rural Community, Town and Urban Centers.

SH-e Official roadway signs identifying specific businesses providing services to motorists should be provided within the road right-of-way.

- SH-f Roadway intersections and private driveway entrances should be limited along scenic roadways to maintain a clear demarcation of the roadway and an uncluttered appearance. (This will also contribute to traffic safety and improve the traffic efficiency of the roadway.)
- SH-g Administrative guidelines (Policy SH-a) and other development regulations designed to protect the integrity of the scenic corridor shall be strictly enforced in the vicinity of County Gateways, in recognition of their unique value in creating first impressions of Shasta County for first time visitors.
- SH-h New industrial and commercial operations along scenic corridors dominated by the natural environment shall be restricted to urban, town and rural community centers.
- SH-i Officially designated scenic routes shall provide vista sites, turnouts, restrooms, picnic grounds, travel information and other related facilities/services, recognizing the fact that the immediate roadside environment has a great impact on motorists and tends to color their scenic roadway experience.
- SH-j Roadside facilities shall be located to minimize land-use conflicts (littering and trespassing) with agricultural uses.
- SH-k Residents of Rural and Town Centers should help establish design themes and conditions for scenic roadways within their community.
- SH-l The planning of state, county or local scenic routes shall be coordinated with the planning efforts of adjacent park and/or recreation councils.
- SH-m The list of state and county highways eligible for official designation shall be reviewed every five (5) years to determine the appropriateness of either their current or potential classification as "eligible" for official recognition. Routes which are found to be no longer eligible shall be removed from the list, while new eligible routes may be added.

IMPLEMENTATION

Policies SH-a and Sh-g will require the geographic definition of the scenic corridor and the development of guidelines covering the items listed in these policies. These guidelines are intended to be applied at the time of application for a building permit and will be adopted by resolution of the Board of Supervisors.

Policy SH-b will be implemented by resolution of the Board of Supervisors. It is intended to primarily apply to new utility lines within scenic highways dominated by the natural environment, but undergrounding of utility lines, both old and new, throughout Shasta County shall be encouraged.

Policies SH-c, SH-d, and SH-e will require revision of the county sign ordinance.

Policies SH-k, SH-l, and SH-m are general guidelines for County action and require no specific implementation.

Policy SH-h will be implemented by policies in the Community Development Element.

Policies SH-i and SH-j will require capital improvements and operational expenditures by County government.

OPEN-SPACE AND RECREATION

INTRODUCTION

Of the nine mandatory elements of the general plan, the open-space element next to land use, is the broadest in its required scope. As defined by Government Code Section 65560(b) "open-space" includes any parcel or area of land or water which is essentially unimproved and designated as such for any one of the following reasons:

- natural resource protection (such as fish and wildlife habitats, rivers, streams and riparian corridors)
- managed production of natural resources (including agricultural and timberlands, mineral extraction areas and fish hatcheries)
- provision of outdoor recreation (camping, hiking, boating, etc)
- assurance of public health and safety (open space along flood plains, steep slopes, or any other such area which threatens the safety of structural development)

The objectives of the open space element have been clearly stated by the State Legislature and are included in the Government Code Section 65561:

- "... (a) That the preservation of open-space land ... is necessary not only for the maintenance of the economy of the state, but also for the assurance of the continued availability of land for the production of food and fiber, for the enjoyment of scenic beauty, for recreation and for the use of natural resources; and
- (b) That discouraging premature and unnecessary conversion of open-space land to urban uses is a matter of public interest and will be of benefit to urban dwellers because it will discourage noncontiguous development patterns which unnecessarily increase the cost of community services to community residents ..."

Government Code Section 65303 outlines an optional recreation element designed to show "... a comprehensive system of areas and public sites for recreation, including ... (1) Natural reservations. (2) Parks. (3) Parkways. (4) Beaches. (5) Playgrounds. (6) Recreational Community Gardens. (7) Other recreation areas."

Because recreational opportunities in Shasta County are so numerous, the General Plan will approach their discussion in three different ways: recreation as it relates to the County tourist industry, recreation at the community level (local parks and

playgrounds), and recreation at the Countywide level.

For a discussion of recreation at the community level, the reader is referred to the Schools, Libraries, and Recreation Element included in the Community Development Group of Part II and Part III, Community Plans. The Open-Space and Recreation Element deals with recreation at the Countywide level and recreation as it relates to the County tourist industry. The Element includes a discussion of the resources and facilities provided by federal, state, and County governments as well as private interests, which are designed to accommodate users from the entire County.

Although the General Plan Guidelines allow for a separate recreation element, the discussion of Countywide recreational resources in Shasta County has been incorporated into the Open-Space Element to emphasize the relationship between Open-Space land and recreational uses. As defined by state statute and this General Plan, open-space is a passive land use category, meaning that the use and enjoyment of open-space is derived from the natural character of the land rather than any man-made improvements to it. Recreation on the other hand, is an active use of open-space land. Recreational areas are essentially open-space lands which are designed to accommodate recreational activities such as hiking, picnicking, or camping. The distinction between recreation and open-space is often a cloudy one, as the two uses frequently overlap. For this reason, these two elements have been combined.

FINDINGS

Open Space Resources

As noted in the Economic Development Element of the General Plan, the economy of Shasta County is comprised of three major industries - timber harvesting, tourism, and agriculture - all of which require substantial open space resources as defined by the Government Code for their operation. In general terms, these resources may be described as follows:

- timber harvesting
 - National Forest Service lands
 - privately owned timber lands
- tourism
 - federal, state, and county recreation facilities
 - private recreation facilities
- agriculture
 - grazing lands
 - crop lands

Other major open space resources of Shasta County are its rivers and creeks and their associated riparian corridors and floodplains. The value and importance of these resources cannot be over-emphasized and lies in their potential use for many different purposes, including:

- Riparian habitat protection
- Floodplain management

- Community design
- Recreation.

These multi-purpose uses are particularly valuable in the SCR Planning Area, but the anticipated urbanization of parts of this planning area presents a major threat to these resources. In the other planning areas, development presents far less of a threat to these resources, but their value is no less important. For these reasons, the major rivers and creeks of the County are symbolically designated on the General Plan maps to denote the application of policies specified in this and other Plan elements. With respect to this element, these policies address the scenic value of these resources and their recreation potential.

As provided by the Subdivision Map Act, subdivisions fronting along certain of these rivers and creeks must provide reasonable public access to the waterway and must dedicate a public easement along a portion of the bank of the river or creek lying within the subdivision (Government Code sections 66478.4 and 66478.5). In Shasta County, these rivers and creeks are:

- Sacramento River between Keswick and the Shasta-Tehama County line.
- Battle Creek downstream of the Coleman Powerhouse (Fish and Game Code Section 1505).

A detailed inventory of these open space resources is presented in Table OSR-1.

Given that the composition of the economy of Shasta County will remain unchanged for at least the foreseeable future, the open space needs of County residents will be more than adequately met in terms of the amount of the resources per population. The central open space issue in Shasta County is the accessibility of these resources to residents of the urbanized portions of the SCR planning area. Presently within this area exist large, privately-owned, undeveloped open space areas readily accessible by automobile, walking, bicycle, or horse. As this area becomes more developed over time, a major portion of these close-in open space resources will be lost to development which will also tend to eliminate methods of access other than those using a paved roadway. Increased dependence on the automobile will also tend to limit access because of increasing fuel costs.

One approach to providing better access is the development of a system of hiking, bicycle, and equestrian trails linking the urbanized areas with open space resources. The development of such a system is discussed under Recreation Resources.

Most of the open space resources of Shasta County are federally or state-owned and their management is the responsibility of the appropriate government agency. Open space lands under the jurisdiction of the County are mostly privately owned timber and agricultural lands. Their management for open space purposes will be indirectly accomplished by policies described in the Timber and Agricultural Elements and are primarily intended to maintain the economic value of these resources. Other major open space lands

TABLE OSR-1

SHASTA COUNTY OPEN SPACE INVENTORY

PUBLIC LAND

Federal

Shasta Trinity National Forest
Whiskeytown National Recreation Area
Lassen National Park
Lassen National Forest
Bureau of Land Management holdings

State

Latour State Forest
McArthur-Burney Falls Memorial State
Park
Castle Crags State Park
Ahjumawi Lava Springs State Park
Shasta Historic Park

County

Balls Ferry Park and Fishing Access
Battle Creek Fishing Access
Keswick Lake Fishing Access
French Gulch Park
Hat Creek Park
Lake Britton Fishing Access
Jones Valley Boat Launching Facility
Packers Bay Boat Launching Facility
Redding Island Park and Fishing Access

Regional Serving City Parks

Anderson River Park and Fishing Access
(City of Anderson)
Girl Scouts Park (City of Redding)
Lake Redding - Caldwell Memorial Park
(City of Redding)
South City Park (City of Redding)
Turtle Bay Regional Park (City of
Redding)
Turtle Bay East (City of Redding)

PRIVATE LAND

Privately owned and operated
recreational facilities and open-space
resources such as resorts, campgrounds,

recreational vehicle parks, boat and
boating equipment rental facilities,
geologic tours, hunting and fishing guide,
and clubs are provided by commercial
enterprises. Privately owned open-space
also includes timber and agricultural
lands, floodplains, and land designated
for Natural Resource Protection.

OTHER

Heritage Resources

Including National Historic Landmarks,
State Points of Historic Interest, areas
listed in the California Landmark Series
and other areas of significant historic,
cultural, or geologic value.

The Pacific Crest Trail

Under the auspices of the United States
Forest Service, the Pacific Crest Trail
provides access into areas of unique and
pristine natural character. The trail
winds its way along the Pacific Mountain
Ranges from the Canada-Washington
border, south to the Mexico-California
border. The Pacific Crest Trail covers
154 miles in Shasta County,
approximately 2/3 of which is on Forest
Service land, and the remainder on
private land.

Quasi-Public land

This category includes campgrounds,
man-made lakes, day use areas, and
fishing access points provided by PG&E
or other local utility districts.

under County jurisdiction include floodplain areas which are subject to policies described in the Flood Protection Element.

Countywide Recreation Resources

As noted in the introduction, recreation is concerned with the active use of lands and facilities designated for this purpose. Table OSR-1 shows that federal and state agencies and the private sector are major providers of Countywide recreation facilities in Shasta County, and the role of County government has correspondingly been a limited one. A recreation commission appointed by the Board of Supervisors has been in existence since 1961 and has primarily been responsible for making recommendations to the Board on recreation matters.

In late 1981 the County will be closing its Buckeye Landfill Site located to the north of Redding on lands acquired from the Bureau of Land Management, on condition that the County would develop them as a park upon closing. Present planning calls for returning the site to the Bureau of Land Management. Under this plan, County funds collected in anticipation of the conversion project would be distributed to local agencies who in turn would use these funds for recreation purposes.

The only new County recreation project currently in the planning stage involves the proposed Cottonwood Creek Reservoir. Subsequent to its construction, the County would have ten years in which to decide whether to sponsor recreation facilities at this U.S. Corps of Engineer owned and operated reservoir. If the County does decide to proceed with the project, the reservoir facility would be operated on a fee basis, possibly through a concessionaire. An important issue concerning this project is the nature of the surrounding land uses. One option would be to allow intensive recreational residential development, while another option would be to limit development such as has been done in the vicinity of Whiskeytown Reservoir.

The proposed enlargement of Shasta Dam would also have recreation implications for County residents. If this project is developed, an as yet undetermined amount of stream-side or riparian habitat area will be inundated and no longer available for use by County residents. One way of mitigating this impact would be to replace the riparian resources lost in this manner with improvements in the habitats along creeks in the SCR planning area. The proposed enlargement project is now entering a new study phase during which it would be appropriate and to the County's benefit to request exploration of this impact and mitigations.

Trails

As noted above, trails offer one means of increasing accessibility to the open space and recreation resources of Shasta County, and trails are themselves a recreational facility. During the planning process, a considerable amount of interest in multi-purpose trails was expressed by the following organizations located in the SCR Planning Area: Palo Cedro Trails Council, Mountain Gate Trail Riders, Shasta Horseman's United Council, Centerville Community Planning Advisory Committee, and Shasta Wonderland Elite Athletic Team. Given this expression of citizen interest and the very limited resources which County government may devote to recreation development, a practical approach to developing a trail system would be to rely on citizen effort. The organizations listed above

could be united under the leadership of the County Recreation Commission to begin the process of developing the trail system.

It must be recognized that this process will be long-term and will require a tremendous amount of citizen involvement to be successful. The role of the General Plan in this process would be to adopt a trails system policy map establishing its overall framework. Where new subdivision development incorporates a link in this system, the County would exercise its authority under Government Code Section 66477 to require the dedication of an easement in the trail right-of-way. In other privately owned areas securing the trail right-of-way would require a variety of techniques, including purchase, lease, or possibly gift. Public funds available for this purpose will be extremely limited, especially at the County level, although the possibility of passing a special tax to support trail system acquisition costs should not be discounted. Less problems would be encountered where the trail system utilizes an existing public right-of-way.

Acquisition and development of a trail system is one problem; maintenance of the system is another. Maintenance costs would be especially significant where the trail system would not use an existing public right-of-way. In the absence of support by its citizens, County government will be unable to make the necessary long-term commitment to maintain the system. The burden of securing support for this commitment will again rest with the citizen sponsors of the trails system.

Figures OSR-1 and 2 show trails system policy maps for the SCR planning area. The overall purpose of this system is to provide the urbanized areas and rural communities with access routes to open space and recreation resources located to the north, east, south, and west of SCR. The trails policy map is intended to present a generalized concept and its implementation will require field surveys to determine the precise routes. The description of the trail system which follows outlines the general principles which should be followed in developing this system. With certain exceptions, these maps are not intended to show local trail systems which will tie into the larger, planning areawide system. These feeder trails will be developed with local community input and then added to the policy map. The local trails shown in Figure OSR-2 reflect proposed local trails and are included for illustrative purposes.

In recognition of their different right-of-way surface requirements, the trails system is divided into two elements: (a) bicycle and (b) hiking and equestrian. In certain sections, the two elements would share the same right of way.

The bicycle trail exclusively uses public roads, as shown in Figure OSR-1. Where possible, it avoids Interstate 5. It is assumed that bicycles would use the paved, vehicular right-of-way. In the event that funding is available, a parallel bicycle path could be constructed along the links of the system experiencing heavy automobile traffic, such as Highway 273. The bicycle trail system is designed to connect all communities in the SCR planning area and to provide north-south, east-west circulation.

The equestrian/hiking trail system avoids the use of public roads wherever possible and relies heavily on the use of creek corridors and powerline easements. As shown in Figure OSR-2, this trail system is composed of two north-south sections. The eastern

National Recreation Area Boundary



Major Equestrian/Hiking Trail



Local Equestrian Trail (approx.)

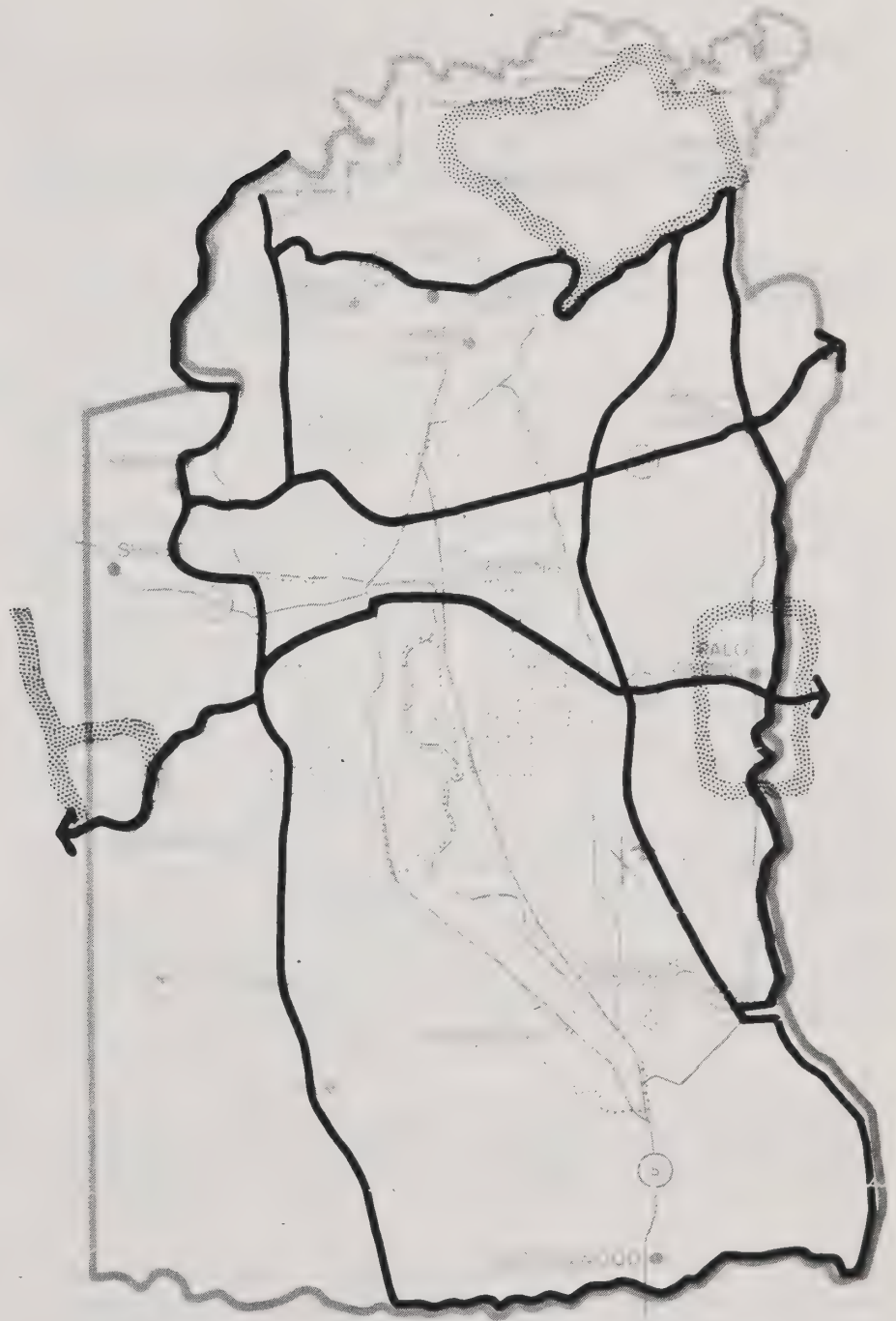


FIGURE OSR-2
Equestrian/Hiking Trail Policy

South Central Region

General Plan Revision Program: SHASTA COUNTY, CALIFORNIA

this purpose. This element also provides policies which recognize the importance and value of these resources.

OBJECTIVES

OSR-1 Protection of the open-space and recreation resources of Shasta County for the use and enjoyment by County residents both now and in the future.

OSR-2 Provision of public access to open-space and recreation resources consistent with the need to protect these resources and the rights of private property owners.

OSR-3 Recognition and utilization of riparian corridors, utility lines, and flood plains as recreation resources available in Shasta County.

POLICIES

OSR-a Protection of the open space resources under Shasta County jurisdiction shall be achieved primarily through policies recognizing the contributions of these resources to the economy of the County. Specifically, the Timber, Croplands, Grazing, and Small Scale Croplands/Grazing land use designations shall be used for this purpose. Other open space resources with no economic value for timber, croplands, or grazing shall be classified as Natural Resource Protection-Open Space (N-O). The purpose of the N-O classification is to recognize open space values by permitting low density residential development. Typically, lands classified as N-O are adjacent to major landforms, riparian corridors, habitat areas, etc. Residential densities equivalent to Rural Residential B are permitted on lands classified as N-O. In recognition of their open space value, federally owned lands under the jurisdiction of the Bureau of Land Management shall be classified as N-O, except that no residential development be permitted.

OSR-b Protection of the open space resources under federal or state jurisdiction shall be achieved through coordination between the appropriate agency and the Shasta County Recreation Commission.

OSR-c Accessibility by County residents to the open space and recreation resources of the County shall be increased by the development of a County trails system as shown in Figures OSR-1 and OSR-2. This trails systems shall be coordinated with local systems proposed and developed by the residents of urban, town, and rural community centers. Responsibility for developing this system shall rest primarily with County residents under the leadership of the Shasta County Recreation Commission. This effort may receive limited financial assistance from Shasta County. This effort shall be supported by the necessary modifications in the County's subdivision dedication requirements.

OSR-d A request for a study exploring the implications of the proposed elevation of Shasta Dam for riparian habitat and possible mitigations with respect to enhancing similar

habitats in the SCR planning area shall be transmitted to the appropriate federal and state agencies.

OSR-e Parks and recreation systems planning, acquisition, development, and operation should be coordinated among city, County, state and federal governments, as well as schools and special districts, and should take advantage of opportunities for linkages between publicly owned parks and open-space lands.

OSR-f The quality of the recreation resource values of national recreation areas, national parks, wilderness areas, and state parks shall be protected and maintained by the application of the Natural Resource Protection - Recreation Resource (N-R) land use designation to privately owned lands located within or adjacent to these resources. For the purpose of this policy, "adjacent" generally means within 1/2 mile, but in the actual application of this policy this distance may be diminished or increased based on on-site conditions, such as topography, which determines whether development of "adjacent" lands will be visible from the protected resource.

When lands within or adjacent to these resources are classified as Timber, Cropland, or Grazing, the N-R classification is not mapped. In these instances, N-R classification is expressed as a policy which overlays these other classifications.

The purpose of the N-R classification is to mitigate any visual impacts which may result from the use of lands so classified on resources with state and national recreation significance and local significance for the County's tourist industry.

When this classification overlays lands classified as Timber, Croplands, and Grazing, it is recognized that the economic use of these lands may have adverse visual impacts. Here it is the intent of this policy to mitigate where reasonable and feasible, these visual impacts.

When this classification is mapped, it permits residential uses subject to standards addressing parcel size, siting of structures, height of structures, exterior lights, exterior colors of building materials, removal of natural vegetation, location of access roads, placement of utilities, and other relevant factors designed to mitigate the visual impact of these structures as they are visible by persons using the recreation resources.

If lands so classified are within a Rural Community Center, densities equivalent to Rural Residential A are permitted. Otherwise, densities equivalent to Rural Residential B are permitted.

OSR-g Commercial recreation based on open space and natural feature resources shall be permitted as shown on General Plan maps by use of the symbol **R**. (Note: this designation is more completely discussed in the Community Organization and Development Pattern Element.)

OSR-h The significant river and creekside corridors of Shasta County shall be symbolically designated on General Plan maps. The purpose of this designation shall be in part to identify and encourage the use of the open space and recreation opportunities presented by these corridors. Public access and public easements along the corridors listed below shall be required as provided by the Subdivision Map Act:

- Sacramento River between Keswick and the Shasta-Tehama County line, and
- Battle Creek downstream of the Coleman Powerhouse.

In all other cases, public access and easements for recreation purposes shall be encouraged.

IMPLEMENTATION

Policy OSR-a will be implemented through policies contained in the Agricultural Lands and Timberlands Elements.

Policies OSR-b, OSR-c, OSR-d, and OSR-e will require action by the Shasta County Recreation Commission. Additionally, policy OSR-c will require modification of the County's subdivision park dedication requirements.

HERITAGE RESOURCES

INTRODUCTION

Listed as optional under the California General Plan Guidelines is a historical preservation element "for the identification, establishment, and protection of sites and structures of architectural, historical, archaeological or cultural significance The historical element shall include a program which develops actions to be taken in accomplishing the policies set forth in this element." (Government Code Section 65303(j)).

Due to an abundance of heritage resources located in Shasta County and the interest of County residents in the preservation of these resources, the General Plan includes this optional element.

FINDINGS

Background

Established in 1850, Shasta was one of the original 27 counties in California. Prior to the arrival of non-native settlers in the 1820's and 1830's, Native Americans of several tribal family groups occupied large sections of the County. These groups included the Yana and Wintu in the Sacramento River Valley and the Okwauchu, Atsugeni, and Achomawi in the northern and eastern regions.

In the early 1800's pioneer and fur trapping expeditions began exploration of the northern Sacramento River Valley, yet permanent towns in Shasta County were not established until 1848, following the discovery of gold along Clear Creek by Pierson B. Reading.

Historic Records

Pre-Contact

While much of the County's post-contact history is known, there is still much to be learned of the Native American culture in Shasta County prior to the arrival of non-native settlers. This type of information is obtainable in a variety of ways, yet those methods which are most commonly used are ethnography and archaeology.

As was common practice of many ancient peoples, the Native American groups in Shasta County relied on the oral tradition of recordkeeping. Thus, much information on these groups known to us today has been obtained through interviews with tribal elders who are able to describe the lives of their ancestors.

A second means of retrieving ancient history is through archaeology, the scientific study of material remains of human life and activities.

Of these two methods, archaeology presents the greatest implications for land use planning.

Development in areas with known or suspected heritage value may result in damage to or loss of these fragile resources if measures to preserve them are not implemented. It is therefore important that the General Plan be used as a guideline for the protection of these resources for their inherent cultural, scientific, and aesthetic value.

A primary concern expressed by Native Americans relevant to land use planning involves the preservation of ancient villages and burial grounds. This is particularly true for descendants of the Wintu tribes whose now abandoned villages were once located in the Sacramento River Valley. Today this area is experiencing substantial development pressure. In order to satisfy the desire for cultural preservation as well as the needs and demand of future development, representatives of Native American interests, historians, and interested archaeologists should be allowed to monitor the preliminary development of sites which are known or suspected to contain significant cultural artifacts to determine their significance to cultural heritage. Provisions should also be made whereby valuable artifacts could be professionally excavated and preserved. In addition to villages and burial grounds, such artifacts include stone tool chipping sites, tools, baskets, and weapons. Several large petroglyph (rock art) sites have also been located in the SCR and Eastern Upland Planning Areas.

Post-Contact

Post-contact artifacts consist primarily of settlement areas and structures, cemeteries, and mining sites of the gold rush era. Many of these sites are located in the Sacramento River Valley and the Eastern and Western Upland Planning Areas of the County and are usually accessible to the general public.

Opportunities to preserve post-contact historic resources are available through federal and state government protection. The National Register of Historic Places, the California Landmark Series, and State Points of Historic Interest are all means by which resources may be enhanced and maintained. Several historic sites in Shasta County have already been included in these programs and are listed and described in Table HER-1.

Geology

Interest has also been expressed in the protection of the geologic and paleontologic information in Shasta County. The County is unique in that it is located at the intersection of five geologic provinces: 1) the Coast Range; 2) the Klamath Mountains; 3) the Sierra Nevada; 4) the Cascades; and 5) the Great Valley. This particular location thereby creates a multitude of geologic and physiographic environments in the County. Study of these

environments may assist scientists in their understanding of the early formation of the earth as well as the early formations of life itself.

The recent renewal of mining interests as well as urban development may pose adverse impacts for the scientifically significant geologic resources in Shasta County. It is thus important that the General Plan provide a mechanism whereby scientific concerns may be addressed in the planning process.

OBJECTIVES

HER-1 Protection of significant resources which relate to the early habitation of Shasta County by Native Americans and by later settlers so that these resources may be appreciated, studied and provide a historical context for future generations of Shasta County residents.

HER-2 Protection of significant resources which relate to the geologic development of Shasta County so that this development may continue to be explored and more fully understood.

POLICIES

HER-a A Heritage Resource Inventory map shall be maintained and updated by Shasta County. This map shall be used in the review processes for private development project proposals, and to guide the siting and design of public projects in areas where heritage resources are known or suspected to occur.

HER-b Development projects in areas of known heritage value shall be designed to minimize degradation of these resources. Where conflicts are unavoidable, mitigation measures which reduce such impacts shall be implemented. Possible mitigation measures may include clustering, buffer zones, and building siting requirements.

HER-c The County shall establish a Heritage Resources Review Committee which shall consist of professionals/ experts representing the fields of Native American culture and history, Anglo-American history, archaeology, paleontology and geology. Members of this committee shall be responsible for the coordination of development monitoring activities with private developers, the assessment of potential impacts on heritage resources, and the maintenance of the Heritage Resources Inventory Map.

HER-d The County shall develop an ordinance designed to preserve specific resources identified by the Heritage Resources Review Committee. This ordinance shall include both regulatory and non-regulatory approaches to preservation, and it shall be capable of application to specific sites and structures, as well as districts.

TABLE HER-1
SHASTA COUNTY HERITAGE RESOURCES¹

<u>NAME</u>	<u>LOCATION</u>	<u>THEME²</u>
Afterthought Mine	Highway 299E	EC/IN
Archeological Site*	Shasta Trinity National Forest	CULT
Archeological Site*	Lassen National Forest	CULT
Balls Ferry	Balls Ferry Road	EC/IN
Bass Hill	North of Redding	EX/SE
Battle Rock	Castle Crags State Park	MIL
Bells Bridge	Highway 99, Clear Creek	EX/SE
Benton Tract Site*	Redding	CULT
Briggsville	Clear Creek Road	EC/IN
California-Oregon Road	Anderson	EX/SE
Clear Creek	Redding	EC/IN
Cottonwood Historic District*	Cottonwood	ARCH
Cow Creek Petroglyphs*	**	CULT
Dersch Homestead	Anderson	EX/SE
Dersch-Taylor Petroglyphs*	**	CULT
Fall River's First School Site	East of McArthur	SO/ED
Father Rinaldi's Foundation of 1856	Town of Shasta	REL
Fort Crook Site	10 miles NW of Fall River Mills	MIL
Fort Reading Site	Anderson	MIL
French Gulch Historic District	French Gulch	EC/IN
Horse Town	Clear Creek Road	EC/IN
Horseshoe Lake Ranger Station*	Lassen National Park	EX/SE
Igo	Igo	EC/IN
Iron Mountain Mine, Keswick Smelter	NW of Redding	EC/IN
Lake Britton Archaeological District*	**	CULT
Lockhart Ferry	Fall River Mills	EX/SE
Loomis Visitor Center*	Manzanita Lake - Lassen National Forest	SO/ED
McEllroy Military Road Crossing	Highway 299E	EX/SE
Millville	Old 44 Drive	EC/IN
Nobles Pass Route*	Park Highway - Lassen National Park	EX/SE

<u>NAME</u>	<u>LOCATION</u>	<u>THEME</u>
Old City Hall*	Redding	SO/ED
Olsen Petroglyphs	**	CULT
Park Entrance Station and Residence*	Mineral	EX/SE
Piety Hill	East of Igo	EC/IN
Pine Street School*	Redding	SO/ED
Pioneer Baby's Grave	West of Shasta	EX/SE
Prospect Peak Fire Lookout*	Mineral	EX/SE
Reading Adobe*	Cottonwood	EC/IN
Reading's Bar	Clear Creek Road - Igo	EC/IN
Ried Mine in Old Diggins	Summit City	EC/IN
Shasta State Historic Park*	Highway 299, West of Redding	EC/IN
Shasta 47	Sacramento River - Redding	CULT
Shingletown	Highway 44	EC/IN
Southerns Stage Station	Highway 99 - Castella	EC/IN
Squaw Creek Archaeological Site*	**	CULT
Summit Lake Ranger Station*	Mineral	EX/SE
Texas Springs	Texas Springs Road	EC/IN
Tower House District*	Whiskeytown NRA	EC/IN
Volta	Manton	EC/IN
Warner Valley Ranger Station*	Mineral	EX/SE
Whiskeytown	Whiskeytown	EX/SE

¹The 51 heritage resources listed here include resources included in the National Register of Historic Places, the California Historical Landmarks series, or the California Points of Interest program. In addition to the resources listed here are approximately 500 known sites or areas of archaeological significance. The names and locations of these areas are not revealed in order to protect these sensitive resources. This information is on file with the Cultural Resources Section of the California Department of Parks and Recreation.

²Theme Code:

ARCH	Architecture	EX/SE	Exploration/Settlement
CULT	Cultural (Aboriginal)	MIL	Military
EC/IN	Economic/Industrial	REL	Religion
		SO/ED	Social/Education

*National Register of Historic Places site.

**Information regarding the location of these resources is on file with the Cultural Resources Section of the California Department of Parks and Recreation.

Source: State of California Department of Parks and Recreation

IMPLEMENTATION

Implementation of these policies centers around the appointment of a Heritage Resources Review Committee, similar in general purpose and composition to the County Recreation Commission. The Heritage Committee will require staff support from the Planning Department in order to perform its review function and to maintain the heritage resources inventory map.

Policy HER-b will be implemented through the environmental review process. Implementation of policy HER-d is self explanatory.

Community Development Group



The Community Development Group comprises General Plan elements addressing the use of Shasta County's physical resources to provide communities in which its residents live, work, and recreate. The individual elements contained in the Community Development Group are listed below. The presentation of each element discusses its relationship to state planning law. These elements are:

- Community Organization
- Economic Development
- Housing
- Circulation
- Water Supply, Wastewater Treatment and Solid Waste Disposal
- Schools, Libraries, and Community Recreation Facilities
- Community Design.

These elements are grouped together because they collectively address the maintenance and development of urban, suburban, and rural communities; the employment and housing of the people residing in these communities; how their residents move about within their own communities and travel outside to other communities; the provision of basic services to the residential, commercial, and industrial sectors of the community; the provision of facilities for the educational and recreational needs of its residents; and the design of communities which are functionally efficient, visually attractive, and pleasant places in which to live.

Since the policy options available in this element group are closely influenced, and in some areas constrained, by elements in the Public Safety and Resources Groups, it follows them in the organization of the General Plan. This is not to suggest, however, that this element group has the lowest priority. A major goal of the Plan is to balance and coordinate the sometimes competing objectives contained in the three element groups. Achieving this goal requires some understanding of their interrelationships. Elements contained in the Public Safety Group place limits on the use of the County's physical resources in order to reduce the risks of loss or damage to life and property to acceptable levels. Elements contained in the Resources Group describe the opportunities presented by the County's resource base and define the limits within which these resources may be used on a long-term, sustainable basis. Elements in the Community Development Group in turn must respond to risks posed by natural and man-made hazards and to the opportunities presented by the resource base.

Responding to these risks and opportunities in a responsible manner will ensure that both present and future generations of Shasta County residents will be able to enjoy the quality of life which this County offers.

COMMUNITY ORGANIZATION AND DEVELOPMENT PATTERN (CO)

INTRODUCTION

This element establishes policies and programs relating to the organization and relationships of the types of communities present in Shasta County, the types of living environments they offer, and the location of development over time in relation to these communities in order to maintain and enhance the quality of their environments. This element encompasses most of the subject areas contained within the state mandated land use element, Government Code Section 65302(a), which is quoted in full below. Those subjects within the scope of the Community Organization and Development Element are underlined. Footnotes refer the reader to those sections of the Plan which address subjects not covered by this element. Government Code Section 65302(a) provides:

A land use element which designates the proposed general distribution and general location and extent of the uses of the land for housing, business, industry, open space, including agriculture, natural resources, recreation, and enjoyment of scenic beauty,¹ education, public buildings and grounds, solid and liquid waste disposal facilities, and other categories of public and private uses of land. The land use element shall include a statement of the standards of population density and building intensity recommended for the various districts and other territory covered by the plan. The land use element shall also identify areas covered by the plan which are subject to flooding and shall be reviewed annually with respect to such areas.²

In addition to these mandatory subjects and as provided by state law (Government Code Section 65303 (k)), this element provides for the use of land over time in order to accommodate projected population and employment growth within a defined community development pattern which is rationally related to the necessary public services and facilities.

As can be seen from the discussion of its scope and content, the Community Organization and Development Element is a fundamental and important element of the Shasta County General Plan. This importance should not obscure the fact that its objectives and policies must be understood within the context of all plan elements.

FINDINGS

Prior to presenting findings on development pattern, it is important to define this term as it is used in the General Plan. Development means the use of land to accommodate projected population and employment growth in Shasta County. The key term in this

¹See Resources Group.

²See Public Safety Group.

definition is the word "use". Development means the actual use of land to provide housing, commercial services, employment opportunities, public facilities, etc. Development does not mean the parcelization or subdivision of land into lots which may at some future date be provided with services and built on. This distinction is important because the creation of lots does not accommodate growth. Growth is accommodated only by development which creates lots, provides services to them, and builds the required structures and facilities.

Existing Development Pattern

The future pattern of land use development in Shasta County will in large measure be determined by the existing pattern of land use and the existing organization of communities. Under this pattern major urban development, including the incorporated cities of Anderson and Redding, is concentrated in the Sacramento River Valley along the transportation corridor provided by Interstate 5 and the Southern Pacific Railroad. Located along this corridor to the north of Redding is the unincorporated urban concentration denominated by the Plan as Central Valley, comprising the communities of Central Valley, Pine Grove, Project City, Summit City, and Toyon. South of Anderson along this corridor is the unincorporated community of Cottonwood, which is also characterized by residential and commercial development at urban densities.

Within 5-8 miles to the east and west of this corridor, the development pattern is characterized by rural communities served by community water districts. On either side of the Sacramento River Valley, development in the upland areas takes the form of agriculture, grazing, and timber operations, with small rural community centers and individual homesites dispersed throughout. Many of these communities have their origins in the early settlement of Shasta County. North of Shasta Lake several resort and retirement communities are located along the Sacramento River Canyon.

The above description defines the development pattern of one geographic unit of the County. To the northeast of the Sacramento Valley over the physical boundary provided by Hatchet Mountain Pass lies another geographic unit comprising the Burney Creek, Hat Creek, and Fall River Valleys. This area is traversed by State Highway 299 which runs from the southwest to the northeast. Located along this highway corridor are four unincorporated communities characterized by urban services and urban residential densities. Starting at the southwest corner of this area, they are - Burney, Johnson Park, Fall River Mills and McArthur. Outside of these communities, agricultural and timberlands are the predominant land uses. Small rural community centers are located along Hat Creek.

On a Countywide basis, this development pattern accounts for only a modest portion of the County's total land resources which are under private control. As shown by Table C0- 1, approximately 2.8% of the privately owned land area of Shasta County has been developed.

TABLE CO-1
SHASTA COUNTY LAND RESOURCES

	<u>Acres</u>	<u>Percent of County Total</u>
SHASTA COUNTY	2,416,440	100
Federal Lands	962,539	41
State Lands	18,990	
Privately Owned Lands	1,434,911	59
Incorporated Area	25,559	1.0
- Developed ¹	20,049	.8
- Undeveloped ²	5,510	.2
Unincorporated Area	1,409,352	58
- Developed ¹	45,500	2
- Undeveloped	1,363,852	56

1. Developed lands does not include agricultural and timber lands.
2. Undeveloped lands in Redding were estimated at 20% of the City's total land area.

Source: Shasta County Office of General Planning, February 1980, and Sedway/Cooke.

TABLE CO-2
FUTURE LAND REQUIREMENTS FOR RESIDENTIAL
AND EMPLOYMENT PURPOSES

	<u>Acres</u>	<u>Total</u>
<u>RESIDENTIAL</u>		
Sacramento Canyon	560	
Northwest Forest	120	
Big Bend	400	
Northeast Shasta	2,580	
Lassen	0	
Eastern Forest	920	
Eastern Upland	1,560	
South Central Region	16,760	
Western Upland	840	
French Gulch	120	
		23,860
<u>EMPLOYMENT</u>		
Manufacturing	191	
Transportation	217	
Wholesale Trade	140	
Retail	212	
Finance, Insurance, Real Estate	15	
Services	129	
		904
		<u>24,764</u>

Source: Sedway Cooke

Future Demand for
Developable Land

Population projections prepared for Shasta County as part of the General Plan revision program estimate a year 2000 population of between 159,000 and 200,000 persons, compared with a 1980 population of 115,715. As is documented in Appendix A, these population projections encompass a reasonable range of likely population growth during the planning period. Population projections were also used as the basis for projecting employment growth in the County during the planning period. These employment projections are also contained in Appendix A.

Estimates of the future demand for land to accommodate the projected employment and population growth were developed by converting these projections into acres of land. Following accepted planning practices, acreage requirements were developed using only the high employment and population projections. These requirements are presented in Table CO-2. It is important to understand that these requirements are for acres of land in addition to existing developed acres of land. These acreage requirements do not reflect existing zoning of undeveloped lands which will require modification in some instances.

Developable Land
Supply

The relative development suitability of undeveloped, privately owned lands in Shasta County was analyzed and the results of this analysis are contained in Appendix B. As is shown by Table CO-3, the developable land supply is more than adequate to accommodate the population growth and its concurrent residential and employment land use requirements as projected for the next 20 years. However, as is also shown by Table CO-3, the supply of developable lands, especially the lands of higher suitability, is not uniformly distributed throughout the County. Two planning areas, SCR and North East Shasta, contain 100% of those lands classified as very high or highly suitable for development.

It is useful at this point to contrast the analysis of land supply according to development suitability with the supply of vacant residential lots. The distribution of these lots by County planning area is shown in Table CO-4. The parcelization pattern represented by these lots is a situation which the General Plan must recognize, despite the fact that the development suitability of some unknown portion of these lots is low. Low development suitability is directly translatable into higher public and private costs to use these lots for development purposes. This situation emphasizes the fact that future land divisions must conform to a development pattern based on development suitability in order to make development less costly.

There is a strong and obvious correlation between the results of the development suitability analysis and the existing development pattern. The controlling factors in this analysis relate to those primary services - roads, water supply, and wastewater treatment facilities - required by all types of development. These basic services are generally most readily available, in terms of ease of access and cost-effective provision, to undeveloped lands within or adjacent to existing development. This conclusion underscores the fact that the existing development pattern provides the framework within which the General Plan must operate. While it would be possible to plan for a development pattern which ignored this framework, the private and public costs of this pattern would be substantial.

TABLE CO-3
DEVELOPABLE LAND SUPPLY BY PLANNING AREA

<u>Planning Area</u>	<u>Development Suitability of Land Supply</u>			
	<u>VH</u>	<u>H</u>	<u>MOD</u>	<u>LOW</u>
SCUR	4,000	4,000	50,500	94,200
North East Shasta	6000	1,400	7,700	227,300
Lassen	0	0	0	24,000
Big Ben	0	0	0	181,900
Eastern Forest	0	0	500	160,400
Northwestern Forest	0	0	0	99,400
Sacramento Canyon	0	0	800	118,200
French Gulch	0	0	1,800	54,800
Western Upland	0	0	8,100	165,200
Eastern Upland	0	0	13,900	238,100

TABLE CO-4
VACANT RESIDENTIAL LOT INVENTORY IN SHASTA COUNTY

<u>Planning Area</u>	<u>Number of Lots</u>
Sacramento Canyon	390
Northwest Forest	223
Big Bend	372
North East Shasta	977
Lassen	154
Eastern Forest	1,556
Eastern Upland	2,444
South Central Region	13,200
Western Upland	831
French Gulch	692
Total	20,839

Source: Shasta County Assessor and Sedway/Cooke.

Alternative
Development Patterns

The General Plan revision program analyzed three major patterns by which the developable land supply of the County could be utilized to accommodate the growth projected for the planning period. Each pattern was evaluated for its conformance with the preliminary planning objectives which are now contained in the revised plan in final form. The results of this analysis and evaluation are documented in Appendix C.

Based on this evaluation, the alternatives denominated as SCR Centralized and Decentralized were found to be most in conformance with the objectives of the General Plan. These alternatives were further refined and combined to provide the development pattern used in the General Plan. This pattern is described below.

General Plan
Development Pattern

The development pattern of the General Plan is designed to accommodate a total County population of 200,000 persons, the population projected to be reached by the year 2000. This is accomplished by physically placing the acreage requirements of Table CO-2 onto County lands. In relating this Plan pattern to the existing development pattern in the SCR planning area, it was found necessary to look beyond the 20 year planning period and its acreage requirements in order to lay out a coherent, rational development plan. Therefore, the General Plan development pattern will accommodate at least the growth anticipated during the planning period, and in fact more lands are designated for development than will actually be required during the 20 year planning period.

The General Plan development pattern is quantitatively expressed in Tables CO-5 and 6. Table CO-5 shows the distribution of growth in population, new housing units, and acres of land required by these new units among the 10 planning areas, while Table CO-6 shows the distribution of growth within each planning area. These tables categorize dwelling units according to the General Plan land use designations of Urban, Suburban, and Rural Residential A, all of which relate to density and housing type as described in Table CO-9. Tables CO-5 and CO-6 also contain a separate category for multi-family dwelling units in order to show the distribution of this housing type. Multi-family units as listed in these tables are in addition to units categorized as Urban. The total number of new units required for a given planning area or community is equal to the sum of its Urban, Suburban, Rural Residential A, and multi-family units. The General Plan maps do not show the location of multi-family dwelling units because their siting will be the result of factors more appropriately addressed at the zoning and site planning level.

The following factors were used to convert dwelling units to acres of land:

- Urban - 4.5 D.U.'s/acre
- Suburban - 1.5 D.U.'s/acre
- Rural Residential A- .25 D.U.'s/acre
- Multi-Family - 8 D.U.'s/acre

The General Plan development pattern quantitatively shown in Tables CO-5 and CO-6 is graphically presented in the land use maps attached to the Plan.

The development pattern presented above responds to growth on a Countywide basis and includes both incorporated and unincorporated areas. A certain portion of the 78,000 population growth projected for the SCR planning area for the period 1980-2000 will be accommodated or "in-filled" within the incorporated limits of Anderson and Redding. While recognizing that these limits will expand during the 20 year planning period, it is necessary to establish a starting point from which to allocate growth between the incorporated and unincorporated areas of the County. The starting point which is used is the incorporated limits of the cities of Anderson and Redding as they were in September 1981. This starting point was selected because it is a definite boundary at a fixed point in time.

The development pattern of the General Plan provides that the cities of Anderson and Redding will accommodate within their September, 1981 incorporated limits the following amounts of the 78,000 person population growth projected for SCR for the period 1980-2000:

- Anderson, 3,275
- Redding, 27,270

These growth accommodations were developed as follows. Projected 1980-2000 growth for the area encompassed by the current city limits of Anderson ranges from 3,275 to 6,000 persons.¹ The growth accommodation or infilling figure reflects the lower end of the projected growth. This was deliberately done to overstate the growth projected for the unincorporated area and thus ensure the existence of an adequate land supply in the unincorporated areas.

Redding's General Plan is based on a 1.2 square mile planning area and uses this same area for its population projections. Consequently, projections for population growth within the current city limits are not available. The 1980 population of Redding was 41,995. The 27,270 person 20 year growth increment is in part based on the accommodation of 15,000 persons within the Redding city limits as they existed prior to the annexation recorded on September 17, 1981. The infilling figure of 15,000 is based on a visual inspection of the vacant land supply within the City and its likely build-out based on topographic and parcel size limitations. The remainder of the 20 year growth increment, 12,270 persons, is based on population densities previously planned for this area prior to its recent annexation.

As noted above, the General Plan development pattern is based on a projected population of 200,000 by the year 2000. It is entirely possible that the growth which Shasta County will actually experience during the next two decades may fall short or exceed this projection. This population projection, and its accompanying

¹City of Anderson, Land Use and Resources Element - Working Outline, Page 4.

TABLE CO-5: DISTRIBUTION OF POPULATION AND DWELLING UNIT GROWTH TARGETS BY PLANNING AREAS

Planning Area	1980 Pop.(D.U.) ¹	% of Year 2000 Population	Add'l Pop. ²	Add'l D.U. ³	Distribution of Units				Acres of Land ⁴				Total Acres
					Urban	Sub-Urban	Rural	Multi-Family	Urban	Sub-Urban	Rural A	Multi-Family	
Sacramento Canyon	1,619 (641)	1	400	140	-	-	140	-	-	-	560	-	560
Northwestern Forest	809 (321)	.45	100	30	-	-	30	-	-	-	120	-	120
Big Bend	1,119 (458)	.7	300	100	-	-	100	-	-	-	400	-	400
North East Shasta	7,618 (3,067)	6	4,400	1,680	490	628	510	52	110	420	2,040	10	2,580
Lassen	270 (93)	less than 1	0	0	-	-	-	-	-	-	-	-	0
Eastern Forest	2,170 (870)	1.4	600	230	-	-	230	-	-	-	920	-	920
Eastern Upland	2,757 (1,099)	1.9	1,000	390	-	-	390	-	-	-	1,560	-	1,560
South Central Region	96,010 (38,276)	87	78,000	30,020	15,320	8,400	1,800	4,500	3,400	5,600	7,200	560	16,760
Western Upland	1,822 (733)	1.2	600	210	-	-	210	-	-	-	840	-	840
French Gulch	1,257 (504)	.35	100	30	-	-	30	-	-	-	120	-	120
TOTAL	114,800 (45,800)	100%	85,500	32,830	15,810	9,028	3,440	4,552	3,510	6,020	13,760	570	23,860

¹ Population (dwelling units)³ Additional dwelling units² Additional population rounded to nearest 100⁴ Acres of land rounded to nearest 10

Source: Sedway/Cooke

TABLE CO-6: DISTRIBUTION OF POPULATION AND DWELLING UNIT GROWTH TARGETS WITHIN PLANNING AREAS

Planning Area	1980 Pop.(D.U.) ¹	% of Year 2000 Population	Add'l Pop. ²	Add'l D.U. ³	Distribution of Units				Acres of Land ⁴				Total Acres
					Urban	Sub-Urban	Rural	Multi-Family	Urban	Sub-Urban	Rural A	Multi-Family	
<u>Sacramento Canyon</u>	1,619 (641)	1	400	140	-	-	140	-	-	-	560	-	560
- Lakeshore RCC ⁵			40	14	-	-	14	-	-	-	60	-	60
- Lakehead RCC			60	21	-	-	21	-	-	-	80	-	80
- Castella/Sweet Briar RCC			170	60	-	-	60	-	-	-	240	-	240
- South Dunsmuir RCC			130	45	-	-	45	-	-	-	180	-	180
<u>Northwestern Forest</u>	809 (321)	.45	100	30	-	-	30	-	-	-	120	-	120
<u>Big Bend</u>	1,119 (458)	.7	300	100	-	-	100	-	-	-	400	-	400
- Round Mountain RCC			115	38	-	-	38	-	-	-	150	-	150
- Montgomery Creek RCC			115	38	-	-	38	-	-	-	150	-	150
- Big Bend RCC			70	24	-	-	24	-	-	-	100	-	100
<u>Northeast Shasta</u>	7,618 (3,067)	6	4,400	1,680	490	660	510	52	110	420	2,040	10	2,580
- Burney/Johnson Park TC ⁶	4,818		2,270	870	490	330	0	52	110	220	0	10	340
- Fall River Mills/McArthur TC	1,131		1,830	690	-	300	390	-	-	200	1,560	-	1,760
- Cassel RCC			150	60	-	-	60	-	-	-	240	-	240
- Hat Creek RCC			150	60	-	-	60	-	-	-	240	-	240
<u>Lassen</u>	270 (93)	Less than 1	0	0	-	-	-	-	-	-	-	-	0
<u>Eastern Forest</u>	2,170 (870)	1.4	600	230	-	-	230	-	-	-	920	-	920
- Shingletown RCC			600	230	-	-	230	-	-	-	920	-	920

TABLE CO-6: DISTRIBUTION OF POPULATION AND DWELLING UNIT GROWTH TARGETS WITHIN PLANNING AREAS

Planning Area	1980 Pop.(D.U.) ¹	% of Year 2000 Population	Add'l Pop. ²	Add'l D.U. ³	Distribution of Units				Acres of Land ⁴				Total Acres
					Urban	Sub-Urban	Rural	Multi-Family	Urban	Sub-Urban	Rural A	Multi-Family	
<u>Eastern Upland</u>	2,757 (1,099)	1.9	1,000	390	-	-	390	-	-	-	1,560	-	1,560
- Millville RCC			490	190	-	-	190	-	-	-	760	-	760
- Whitmore RCC			190	75	-	-	75	-	-	-	300	-	300
- Oak Run RCC			320	125	-	-	125	-	-	-	500	-	500
<u>South Central Region</u>	96,010 (38,276)	87	78,000	30,020	15,310	8,406	1,801	4,503	3,400	5,600	7,200	560	16,760

RURAL COMMUNITY CENTERS

13,110

Mountain Gate	1,600		600	225	-	-	225	-	-	-	900	-	900
Jones Valley	500		45	17	-	-	17	-			70	-	70
Bella Vista	2,654		500	190	-	-	190	-	-	-	760	-	760
Palo Cedro	3,561		1,940	730	-	-	730	-	-	-	2,920	-	2,920
Happy Valley	5-6,000		2,600	1,000	-	-	1,000	-	-	-	4,000	-	4,000
Centerville	1,481		2,580	970	-	-	970	-	-	-	3,880	-	3,880
Shasta/Keswick	1,930		390	145	-	-	145	-	-	-	580	-	580

TOWN CENTERS

11,400

Central Valley	8,560		12,610	4,850	2,460	1,820	330	240	550	1,210	1,320	30	3,110
Cottonwood	3,425		3,250	1,220	450	770	-	-	100	510	-	-	610

TABLE CO-6: DISTRIBUTION OF POPULATION AND DWELLING UNIT GROWTH TARGETS WITHIN PLANNING AREAS

Planning Area	1980 Pop.(D.U.) ¹	% of Year 2000 Population	Add'l Pop. ²	Add'l D.U. ³	Distribution of Units				Acres of Land ⁴				Total Acres
					Urban	Sub-Urban	Rural	Multi-Family	Urban	Sub-Urban	Rural A	Multi-Family	
URBAN CENTERS													4,760
Redding City Limits	41,995		27,270	10,250	3,960	3,330	-	2,960	880	2,220	-	370	13,470
Airport Rd/Churn Creek	-		7,350	2,764	1,190	1,370	204	-	260	910	820	-	1,990
Stillwater	-		18,430	6,930	2,920	2,530	520	960	650	1,690	2,080	120	4,540
Old Oregon Trail	-		6,990	2,630	900	1,730	-	-	200	1,150	-	-	1,350
Quartz Hill	-		6,920	2,600	-	2,600	-	-	-	1,730	-	-	1,730
West Redding	-		2,060	770	-	770	-	-	-	510	-	-	510
North Redding	-		2,150	808	330	380	50	48	70	250	200	10	530
Anderson City Limits	7,381		3,275	1,230	500	430	-	300	110	290	0	40	440
Anderson Fringe	-		1,090	410	180	60	170	-	40	40	660	0	740
Western Upland	1,822 (733)	1.2	600	210	-	-	210	-	-	-	840	-	840
Igo			400	150	-	-	150	-	-	-	600	-	600
Ono			100	40	-	-	40	-	-	-	160	-	160
Platina			50	20	-	-	20	-	-	-	80	-	80
French Gulch	606 (242)		100	30	-	-	30	-	-	-	120	-	120
French Gulch			100	30	-	-	30	-	-	-	120	-	120

Notes: ¹ Population (dwelling units)
² Additional population rounded to nearest 10
³ Additional dwelling units rounded to nearest 10

⁴ Areas of land rounded to nearest 10
⁵ RCC = Rural Community Center
⁶ TC = Town Center
⁷ UC = Urban Center

acreage requirements for housing and employment, must therefore be regarded as a Countywide "growth target" which will be revised in response to real world events, rather than as a fixed, inflexible limit which will be mechanically applied without regard to changing conditions. In the same sense, the growth distributed to each planning area and to its constituent communities must also be treated as "targets". It follows that the Community Development Element must contain policies requiring both the periodic review of these targets to measure their conformance with actual growth and, based on this review, the revision of these targets in a manner consistent with the objectives of the General Plan. In consonance with the nature of the Plan as a long-range policy document, the periodic revision of the growth targets should maintain a supply of land capable of accommodating at least the growth anticipated for the twenty year period commencing with the date of revision.

Development Pattern,
Service Provision, and
Interjurisdictional
Coordination

The orderly and cost-effective realization of the development pattern described above requires that it be provided with an appropriate level of basic services by the agency or agencies best able to do so by virtue of its scale of operations, legal authority, financial resources, and long-term plans. As discussed in this section, basic services include water, wastewater treatment, roads, fire protection, and law enforcement.

The task of relating the development pattern to basic service provision will be most complex in the SCR planning area. This complexity exists for two reasons. One, this area will experience a substantial portion of the growth anticipated during the planning period. Two, within this planning area are many different types of service providers. Each service provider differs in its ability to provide basic services. Some service providers address only single services, such as water supply or fire protection. At the other end of the scale, the cities of Anderson and Redding provide all of the basic services, plus many additional urban services. In between the single and the comprehensive service providers are Shasta County and the Shasta Dam Area Public Utilities District. The County provides some basic services, such as roads, fire protection and law enforcement, but not others. Shasta Dam Area PUD provides water supply, wastewater treatment, power, and recreation services, but does not directly provide roads, fire protection or law enforcement.

The conclusion drawn from this analysis is that the cities of Anderson and Redding are best suited for providing all the services required by urban and suburban development. This conclusion is borne out by the practical experience of the County in providing services to the unincorporated urban communities. In all cases, the services provided by County government have been supplemented by those provided by limited purpose governments or special districts.

While the combined abilities of County governments and special districts anywhere in California to provide urban services has always been limited, these abilities have been further impaired by the adoption of Articles XIII A (Proposition 13) and XIII B (Proposition 4) of the Constitution and the constraints they place on revenue collection and spending. On balance, a general purpose government agency receiving revenues from a variety of sources, including user fees as well as property taxes, and functionally equipped to provide

a variety of services, in short a city, is the best vehicle for delivering urban services.

This conclusion suggests that future urban and suburban development provided by the General Plan development pattern and located contiguous to Anderson and Redding should receive their services from these cities. The key issue in this proposition is that of timing development with the establishment of mechanisms to provide services.

The practice to date has been to allow urban/suburbanization to occur in unincorporated areas, either gradually or rapidly, according to development standards not necessarily designed for the efficient provision of urban services. Subsequent annexations by a city and the installation of urban services has been generally more costly than would have been the case had urban development standards been originally followed.

One solution to this problem would be for the County to require adherence to urban development standards so that these costs could be avoided upon annexation. The principal defect of this solution is the uncertainty of the city's commitment to annexation and the possibility that it may never occur. Other problems associated with annexation after urbanization include the opportunity for the selective annexation of development with favorable revenue generation/ service requirements ratios and the inevitable disputes over what constitutes appropriate urban development standards.

The better solution is to require the annexation of future urban/suburban areas prior to any development occurring. Success in employing this solution requires nothing short of joint city-county- special district planning within clearly defined boundaries and the faithful adherence to the plans thus prepared. The legal framework for joint planning will be briefly explored below.

The planning and zoning law of California does not mandate but strongly encourages joint planning through a three level approach:

- defining the planning area,
- defining the nature of the planning interaction, and
- coordination of public works projects.

A general plan must include all territory within the boundaries of the adopting city or county and any land outside its boundaries which bears relation to its planning (GC 65300). With regard to a city, its planning area should extend beyond its incorporated limits to include unincorporated areas whose use and development will affect the City's plan. When a city exercises the authority to prezone unincorporated territory in anticipation of annexation (GC 65859), it must do so in conformance with a general plan for the prezoned area (GC 65860).

A county's general plan must cover incorporated as well as unincorporated territory. Since counties do not exercise land use regulatory authority over incorporated areas, planning for them is in the nature of providing a countywide framework for the growth and development of incorporated areas (State of California, General Plan Guidelines, 1980, p. 14).

Special districts providing public facilities essential to the growth and maintenance of an urban population are authorized to

prepare five-year capital improvement programs indicating the location, size, timing, and other aspects of proposed improvements. The planning area for such a program could include incorporated as well as unincorporated areas. Although the law is silent on this point, the planning area could extend beyond the boundaries of the special district's service area. While the provision of capital improvements exerts a strong influence on land use decisions, it is important to note that special districts are not empowered to exercise land use planning or regulatory authority.

The state planning and zoning law does not explicitly provide any mechanism for determining the planning area boundaries of cities, counties, and special districts. The Knox-Nisbet Act governing local agency formation commissions (LAFCO's) does, however, provide for the designation of "sphere of influence" areas which may function as planning areas. The LAFCO established by state law in each county must define for each city and special district within the county a plan for its "probable ultimate physical boundaries and service area" (GC 54774).

In the case of special district, its planning area and sphere of influence should probably be coterminous. Given its much broader functions and authority in land use planning and regulation, the planning area of a city should include at least its sphere of influence and extend beyond to include areas in which it has a legitimate planning interest.

The state planning and zoning law clearly recognizes that the planning areas of cities, counties, and special districts will overlap to define areas of mutual concern. Accordingly, state law outlines the nature of the planning interaction among these agencies.

General plans or elements thereof proposed for adoption by cities should be referred to the county in which they are located for review and comment, and the county should do likewise for cities within its boundary (GC 65305, 65306). Upon adoption of a plan or constituent elements by cities and a county as described, copies of the adopted plan should be exchanged and may be adopted by the receiving entity as part of its general plan (GC 65360). Five-year capital improvements programs prepared by a special district must be referred for review to cities and counties within which the district operates (GC 65403(c)). The purpose of this review is to solicit comments regarding consistency with the applicable general plan.

State planning law also provides for the coordinated implementation of general plans through the construction of public works projects. Counties and cities may require school and special districts operating wholly or partially within their jurisdictions to submit lists of public works projects proposed for planning or construction during the ensuing fiscal year. These lists will be reviewed by the receiving agency and integrated into a coordinated public works program which shall be evaluated for conformity with the applicable general plan (GC 65401). Cities, counties, and special districts may not undertake a public works project, including the acquisition and disposal of land, within unincorporated and incorporated territory until the project's consistency with the applicable general plan has been determined (GC 65402(b,c)).

The interjurisdictional planning relationships described above are illustrated in Figure CO-1. Areas II and III of this figure show where

joint city-county planning is required so that annexation may occur prior to urbanization/suburbanization. Area V illustrates a unique situation where a special district will provide a service to an area which will ultimately be urbanized and annexed by a city. One option would be to de-annex this area from the service area of the special district and incorporate it within the City. Another option, which is shown in Figure CO-1, is for the special district to continue to provide its service to the area subsequent to annexation. In either case, joint city-county-special district planning is required to facilitate annexation prior to urbanization and thus the orderly provision of urban services.

To summarize the above discussion, the General Plan must contain policies requiring (a) the establishment of the functional areas of joint planning responsibility shown in Figure CO-1, and (b) that annexation by either Anderson or Redding precede the urbanization of areas contiguous to them. These policies are contained in Part Three - Community Plans.

Conversion of Residential Land Use Designations into Zoning Districts

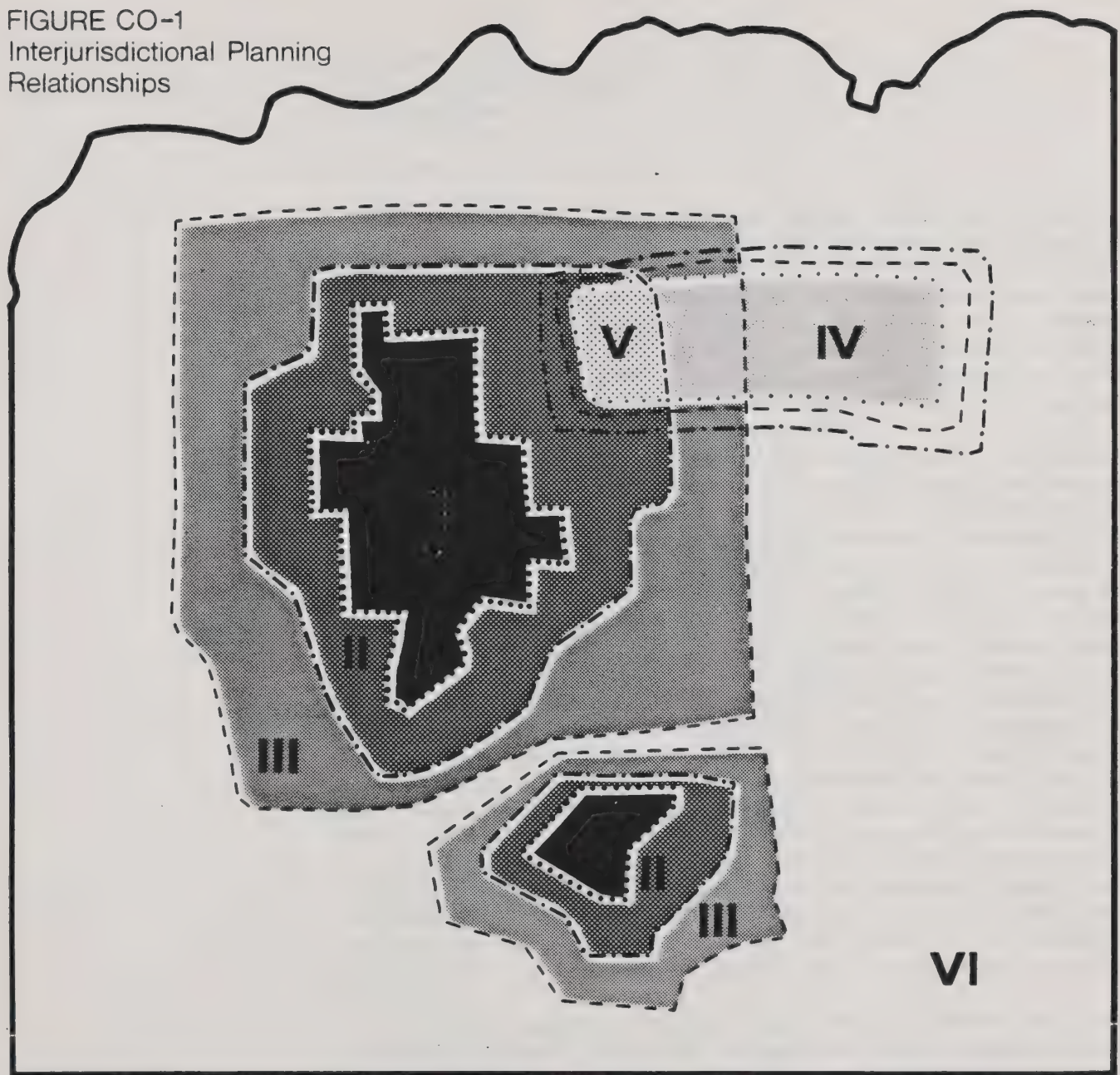
As will be discussed below under "Policies", the General Plan uses four residential land use designations - Urban, Suburban, Rural Residential A, and Rural Residential B. These designations relate to dwelling unit density and housing type and are more completely described in Table CO-9. The density ranges for these designations are:

- Urban - 3.1-16 dwelling units (D.U.'s/acre)
- Suburban - .5-3 D.U.'s/acre
- Rural Residential A - .05-.5 D.U.'s/acre (1 D.U. per 2-20 acres)
- Rural Residential B - .0125-.025 D.U.'s/acre (1 D.U. per 40-80 acres)

Before proceeding, it is important to understand the reasons for the gap in densities between Rural A (1 D.U. per 2-20 acres) and Rural B (1 D.U. per 40-80 acres). One, this gap is designed to focus growth in Rural Community Centers by decreasing population densities in rural areas outside them. Decreasing population densities in these outlying rural areas has the effect of reducing conflicts between residential and the agricultural uses generally found in these areas. It also has the effect of reducing demands in these outlying areas for services, such as fire protection, law enforcement, road construction and maintenance, school bus service, and retail commercial, and shifting these service demands to Rural Community Centers where they can be more efficiently satisfied. Two, this gap is designed to preserve future land use options through a parcelization pattern which would allow future planned development at Rural Residential A densities.

Each residential land use designation listed above establishes a relatively broad density range which will be converted into a more finely-grained series of zoning districts, each with its own parcel size requirements. Apart from the existing land use/parcelization pattern, certain critical factors need to be evaluated in converting land use designations into zoning districts. They are:

FIGURE CO-1
Interjurisdictional Planning
Relationships



County Boundary

Sphere of Influence

Planning Area

City Limits

Service Area

AREA			POTENTIAL ANNEXATIONS		SERVICE PROVIDER			LAND USE PLANNING AND REGULATION	
	INCORPORATED	UNINCORPORATED	YES	NO	CITY	COUNTY	SPECIAL DISTRICT	CITY	COUNTY
I	■		N/A		■			■	
II		■	■			■		■	■
III		■		■		■		■	■
IV		■		■		■	■		■
V		■	■			■	■	■	■
VI		■		■		■			■

- Water Supply
- Wastewater Treatment
- Road Access
- Fire Hazard
- Slope.

Site-specific knowledge of these factors and their implications for density draw a major distinction between the Urban and Suburban land use designations and the Rural Residential A and B designations. Especially important in this regard are water supply and wastewater treatment. Use of the urban and suburban designations is limited to areas where service by community systems is assumed. This assumption is based on existing trends and other facts which provide the degree of site specific knowledge required by assignment of urban and suburban densities.

In contrast, the same degree of knowledge is not available in areas designated as Rural Residential A and B. Some Rural A areas will be provided with community water, but other Rural A areas and all Rural B areas will be served by on-site systems. Likewise, a very limited number of Rural A areas will be served by community wastewater treatment, but most Rural A and all Rural B areas will be served by on-site systems. The ability of parcels of land classified as Rural A and B to accommodate on-site water supply and wastewater treatment systems is highly variable throughout the County and dependent on-site specific conditions requiring field surveys. In the absence of this site specific information, the application to these lands of zoning districts with specific parcel size requirements is problematic and somewhat arbitrary. The very likely result is situations where parcel sizes bear little relation to on-site conditions. It is just as likely that a required parcel size may be too large as it may be too small relative to on-site conditions. In the former case, greater efficiency could be achieved through more intensive use of the land, while in the latter case property owner expectations could be frustrated by the failure of the parcel to accommodate on-site water supply and wastewater treatment systems.

The above analysis suggests that lands classified as Rural Residential A and B should not be assigned specific parcel sizes or densities prior to obtaining detailed, site-specific information. Instead, specific parcel size requirements should be applied to Rural A and B lands only after collection and analysis of the site specific data required to accurately make these determinations.

This approach, commonly referred to as land capability analysis, has been used by other counties in their rural areas, including San Luis Obispo, San Mateo and Santa Cruz. Under land capability analysis, site specific information necessary to develop zoning parcel size limitations is provided by the property owner. Usually this occurs prior to the development, sale, or transfer of a particular piece of land. In all cases, the development potential or sale price of the parcel accurately reflects actual on-site conditions, rather than a development potential or sale price reflecting arbitrary zoning districts based on little or no on-site data.

To a certain degree, the land capability analysis approach is currently being used in the application of the County's on-site

wastewater treatment standards. Here a preliminary determination of septic tank suitability and resulting density is made prior to submitting a formal development application. Land capability analysis, as established in policies contained in this element, would be expanded to include other factors requiring some degree of on-site investigation prior to establishing zoning parcel sizes. These factors, the applicable criteria used in determining density or parcel sizes, and an administrative mechanism would be contained in the zoning ordinance. The following discussion identifies these factors and generally discusses their density criteria. Specific criteria would be developed as part of the revision of the zoning ordinance and included in some type of capability analysis matrix. A model for this matrix is shown in Figure CO-2. The point values shown in this figure are hypothetical and provided for illustrative purposes only.

As noted above, water supply is a critical factor. It is a policy of the Plan that community water supply systems may be provided only to Rural A lands, but not to Rural B lands, which would be exclusively dependent on on-site systems. The density range in Rural A is one dwelling unit (D.U.) per 2-20 acres. Where community water was available, parcel sizes at the lower end of this range would be permissible. Availability would be defined for the lowest parcel sizes to mean that water distribution lines have been brought to the property. Parcel sizes would increase where community water was unavailable, but a surface diversion or significant groundwater basin, as documented by field test, is accessible. Parcel sizes would continue to increase with the difficulty in obtaining water on-site, again as documented by field testing. Rural B prescribes a density range of one D.U. per 40-80 acres. Parcel sizes at the upper end of this range would prevail where on-site water is most difficult to obtain.

Wastewater treatment would be handled in a similar manner. Parcel sizes would be established according to on-site conditions as documented by field test. Areas where soils present the least constraints for on-site systems would have smaller parcel sizes compared to areas where significant constraints exist.

After water supply and wastewater treatment, road access is the most critical factor in determining the development density in rural areas. At one end of the scale, parcels directly accessible or within a specified distance of a County maintained road would be permitted smaller parcel sizes; at the other end, larger parcel sizes would be required for lands served only by privately maintained roads.

Fire hazard would relate to parcel sizes in two ways - hazard classification as established by the California Department of Forestry and response time as determined by the Fire Protection Agency exercising jurisdiction. Lands in areas with lower hazard classifications and shorter response times would require smaller parcel sizes than areas with higher hazard classifications and longer response times.

Slope, the final factor, would address topography and underlying geology as they relate to erosion potential and slope stability. Smaller parcels would be permitted on lands with lower erosion potential and greater stability; larger parcels would be required in high potential, unstable areas.

FIGURE CO-2: HYPOTHETICAL LAND CAPABILITY ANALYSIS MATRIX

<u>Analysis Factors</u>	<u>Point Range Based on Criteria</u>	<u>Factor Weight</u>	<u>Points</u>	<u>Weighted Points</u>
• Water Supply	(1-10)	3	10	30
• Wastewater Treatment	(1-10)	3	2	6
• Road Access	(1-5)	2	3	6
• Fire Hazard	(1-3)	1	1	1
• Slope	(1-3)	1	2	<u>2</u>
GRAND TOTAL				45

<u>Land Capability Points</u>	<u>Average Parcel Size</u>	
	<u>Rural A</u>	<u>Rural B</u>
0-10	20 acres	80 acres
11-20	15 acres	70 acres
21-30	10 acres	60 acres
31-40	5 acres	50 acres
41+	2 acres	40 acres

Note: All point values are illustrative.

Source: Sedway/Cooke

As described above, land capability analysis would differ from the conventional approach to zoning in the following ways. One, conventional zoning assigns parcel sizes to rural lands based on generalized information, whereas land capability analysis would be based on site-specific data. Two, while conventional zoning establishes parcel sizes and density requirements in advance of the actual development of land, land capability analysis would usually come into play only when a development proposal is pending. While there would be absolutely no restrictions preventing a property owner from selling or otherwise disposing of his/her land prior to its evaluation under land capability analysis, in many situations it would be advantageous for a property owner contemplating the sale or transfer of his/her land to know the applicable parcel size requirements. This could be accomplished upon submission of the data required to make this determination. Finally, the burden of providing the on-site data required for land capability analysis would rest with the property owner.

In recognition that land capability analysis represents a departure from past practice, policies contained in this element exempt pre-existing legal lots from its application. Such lots would be permitted to develop at a density of at least one dwelling unit per lot, provided minimum standards for wastewater treatment, water supply, and road access are satisfied. Property owners desiring to develop at higher densities would also be able to apply for land capability analysis.

It is also important to note that once land capability analysis has operated to determine parcel or lot size requirements, lot size averaging, as illustrated in Part One in Figure PRE-6, could be used to create parcels of varying sizes.

As noted previously, land capability analysis would apply to the conversion of Rural Residential A and B land use designations into zoning districts. The same factors used in this analysis will also be used in converting Urban and Suburban land use designations into zoning. In the case of the latter, however, sufficient data exists to allow the relatively precise application of these factors to determine zoning without reliance on the case by case approach required by land capability analysis. There is one exception to this rule. The zoning ordinance should contain provisions addressing density in Urban and Suburban areas as it relates to slope. Of concern here are aesthetic and open space considerations, as well as erosion and slope stability.

Relationship of Public Regulation to Privately Owned Land

Neither public regulation nor the free exercise of private property rights provides the best exclusive mechanism for achieving a development pattern meeting community objectives. Public regulation entails administrative costs; it may limit individual initiative, it is reactive rather than proactive, and it responds slowly to changes in economic conditions which prevail in the market place. The free exercise private property rights is oriented toward individual rather than community benefit, long term consequences are often ignored, and the costs, both economic and non-economic, which are imposed on adjacent property owners and the community at large are seldom explicitly and comprehensively considered.

On the positive side, public regulation does allow for the explicit expression of community values and provides a mechanism for identifying and sharing the costs of development. In turn, the exercise of private property rights provides the motivation and resources without which no development would occur.

Both public regulation and the exercise of private property rights must work in concert if the development pattern provided by the General Plan is to be realized. Each has an important contribution to make to the planning process and the General Plan should allow these roles to be exercised.

OBJECTIVES

- CO-1 To promote a development pattern which will accommodate, consistent with the other objectives of the Plan, the growth which will be experienced by Shasta County during the planning period (1981-2000), as such period is extended by future revisions of the Plan.
- CO-2 To guide development in a pattern that will provide opportunities for present and future county residents to enjoy the variety of living environments which currently exist within the county, including:
- Incorporated communities served by the full range of urban services.
 - Unincorporated communities served by most but not all urban services.
 - Unincorporated rural communities provided with very limited or no urban services.
 - Rural homesites located outside of community centers on relatively large lots or in clustered developments surrounded by open space.
- CO-3 To guide development in a pattern that will respect the natural resource values of County lands and their dual contributions to the County's economic base, including tourism, and to the living environments enjoyed by County residents.
- CO-4 To guide development in a pattern that will minimize conflicts between adjacent land uses.
- CO-5 To guide development in a pattern that will establish an acceptable balance between public facility and service costs and public revenues derived from new growth.
- CO-6 To fashion a development pattern with implementation tools, such as zoning, subdivision, and other regulations, which explicitly define a relationship between public and private expectations and responsibilities concerning land use that is based on the following principles:

- Public expectations shall recognize both the expectations of individual property owners to be able to use their lands as they desire and the responsibility of government to provide a regulatory climate which does not frustrate reasonable private expectations.

- Property owner expectations shall recognize public expectations that land be used in a responsible manner that does not adversely affect either adjacent property owners or the community values of the citizens of Shasta County.

- A workable relationship between public and private land use expectations must be achieved in order for each to be well served.

- Periodic review of the relationship between public and private land use expectations is necessary to reflect changing community values.

CO-7 To recognize that the major economic resources for achieving the development pattern will come from the private sector, rather than government, and that the General Plan, as the expression of community values, will guide the use of these resources.

COUNTYWIDE POLICIES

CO-a The County shall, in coordination with the cities of Anderson and Redding, ensure the availability within the County of a inventory of developable lands sufficient to accommodate growth projected for the planning period. The distribution of this inventory of developable lands among the ten planning areas shall conform to the growth targets established in Table CO-5.

CO-b The County shall monitor, on a yearly basis, the rate at which the developable land inventory is being consumed, the population and employment growth of the County, and other useful indicators of the County growth.

CO-c In 1984 and thereafter every five years the County shall examine the results of the monitoring process for the previous period and by amendment of this Plan make appropriate adjustments in the inventory of developable land so that it will accommodate the growth projected for the subsequent 20 year period. The intent of this policy is that the developable land inventory shall never have less than 15 and no more than a 20 year supply. Five year adjustments in the developable land inventory may include either additions to or subtractions from this inventory, but the latter will occur only when new information reveals this land is ill-suited for development and it is replaced in the inventory by other lands.

CO-d The normal procedure for adding lands not now in the inventory of developable land to this inventory shall be by

amendment of the Plan at five year intervals. Lands shall not be normally added to this inventory at any other time except in the case of an emergency occasioned by natural or man-made disaster. This policy shall not preclude any resident or property owner in Shasta County from requesting a General Plan amendment upon submission of the required application and payment of the prescribed fee.

CO-e The General Plan shall provide for four general types of living environments and shall distribute the developable land inventory among them so that future residents of the County have available the full range of lifestyle opportunities. These living environments are described in policy form in Table CO-7. Table Co-8 provides policies relating these living environments to General Plan land use designations.

CO-f In order to carry out the previous policy, the General Plan shall contain residential, commercial, industrial and growth reserve land use categories, each of which is described in the following tables:

- CO-9 - Residential and Growth Reserve
- CO-10 - Commercial
- CO-11 - Industrial

The relationship of these categories to the four types of living environments is specified in TABLE CO-8.

CO-g The lot size limitations described in Table CO-9 for Rural Residential A and B categories would not apply to pre-existing legal lots. Such lots would be permitted to develop at a density of at least one dwelling unit per lot, provided the following conditions are satisfied:

- Compliance with the 1980 septic tank standards.
- Compliance with water supply standards designed to ensure an adequate long-term water supply, including provisions for well monitoring.
- Compliance with access standards designed to provide adequate circulation for the lot(s) to be served, a circulation pattern which will not create future access problems and maintenance costs beyond those normally expected, sufficient emergency access for medical, police, and fire protection services, and adequate evacuation routes for residents.

CO-h Land Capability Analysis shall be incorporated in the Zoning Ordinance in order to convert the Rural Residential A and B land use categories into zoning districts.

CO-i In addition to the policies expressed in Table CO-10, the following policies shall also apply to commercial land use designations:

- Regional retail uses shall be limited to the Mt. Shasta Mall and its immediate surroundings and downtown Redding.
- The retail function and viability of existing commercial areas in Anderson, Central Valley, Cottonwood, Burney/Johnson Park, Fall River Mills/McArthur, and Rural Community Centers shall be protected and enhanced by preventing competitive retail centers in the same market area, by encouraging reinvestment and expansion of retail uses in the existing centers and upgrading public facilities and utilities serving these areas.
- Office facilities in existing commercial centers and as part of new community and neighborhood centers should be encouraged for reasons of convenience, traffic efficiency and energy conservation.
- New community and neighborhood centers and office complexes should be located to be serviceable in the future by public transit.
- New community and neighborhood shopping centers shall be sized and located to ensure sufficient market support to ensure a high quality center and to avoid undermining the market support needed to sustain already developed centers.
- Expanded opportunities should be provided for commercial facilities accommodating recreation and business visitors to Shasta County and precautions taken to ensure that the design of these facilities promotes an attractive and positive image of the County.

TABLE CO-7: LIVING ENVIRONMENTS AND APPLICABLE POLICIES

<u>Type of Living Environment</u>	<u>Incorporation Status</u>	<u>Applicable Communities</u>	<u>Services</u>	<u>Employment/Economic Function</u>	<u>Community Design</u>
Urban Center	Yes	Anderson Redding	All Urban Services	Major Employment and Retail Trade Center	Man-made environment is dominant; natural features used to add variety and texture
Town Center	No	Central Valley Cottonwood Burney/Johnson Park Fall River Mills/McArthur	Most Urban Services	Secondary employment and retail trade center	Man-made environment balanced by natural environment
Rural Community Center	No	As shown in Table CO-6	May have community water, but typically on-site; in limited instances may have community wastewater treatment, but normally on-site,	Minor employment and retail trade center	Natural environment is dominant
Rural Homesite	No	Not Applicable	No urban services	Typically none, but may include self-employment	Natural environment is dominant

Source: Sedway/Cooke

TABLE CO-8: POLICIES GOVERNING RELATIONSHIP OF
LIVING ENVIRONMENTS TO LAND USE DESIGNATIONS

<u>Land Use Designation</u>	<u>Living Environment</u>			
	<u>Urban Center</u>	<u>Town Center</u>	<u>Rural Community Center</u>	<u>Rural Homesite</u>
Residential				
• Urban	X	X		
• Suburban	X	X		
• Rural A		X	X	X
• Rural B				X
Growth Reserve				X
Commercial				
• Regional Center	X			
• Community Center	X	X		
• Neighborhood Center	X	X		
• Local Convenience Center	X	X		
• Travel Accommodations	X	X	X	
• General Commercial	X	X		
• Office Center/Business Park	X	X		
• Rural Community Mixed Use			X	
Industrial				
• Rail Served Industrial	X	X		
• General Industrial	X	X		
• Industrial Park	X	X		

Legend: X = Land use designation is appropriate within living environment

Source: Sedway/Cooke

TABLE CO-9: RESIDENTIAL AND GROWTH RESERVE LAND USE CATEGORIES, DENSITY AND HOUSING TYPE POLICIES

Land Use Category	Purpose	Gross Density Units/Acre		Single Family Lot Sizes		Single Family Detached ⁵	Single Family Semi-Detached ⁵	Single Family Attached, 2 units	Multi-Family Attached 3 to 8 units	Multi-Family 2 to 3 Story
		Min	Max	Min	Max					
Urban	Provides living environments receiving full range of urban services within an Urban or Town Center	3.1	16	4,000 ¹ sq.ft.	10,000 sq.ft.	P	P	P	P	P
Suburban	Provides living environments receiving most urban services, but characterized by lower population densities than urban residential category, and located within an Urban or Town Center.	.5	3	10,500 ¹ sq.ft.	80,000 ² sq.ft.	P	P	D	D	X
Rural Residential A ^{3,4}	Provides living environments receiving no or only some urban services, usually within a Rural Community Center.	.05	.5	2 ac	20 ac	P	D	X	X	X
Rural Residential B ^{3,4}	Provides living environments receiving no urban services and located in areas of the County characterized by one or more of the following conditions: - severe limitations on septic tank use, - uncertain long-term availability of water, or - proximity to lands categorized as timber, grazing, or croplands,	.0125	.025	40 ac	80 ac	P	D	X	X	X

Land Use Category	Purpose	Gross Density Units/Acre		Single Family Lot Sizes		Single Family Detached ⁵	Single Family Semi-Detached ⁵	Single Family Attached, 2 units	Multi-Family Attached 3 to 8 units	Multi-Family 2 to 3 Story
		Min	Max	Min	Max					
Rural Residential B (Cont'd)	- remoteness from Urban, Town, and Rural Community Centers, - Extreme wildland fire hazard, and - inaccessibility via County maintained roads.									
Growth Reserve	The purpose of this category is to prevent the premature development or subdivision of undeveloped lands, thus foreclosing the opportunity for their future development in accordance with a plan which provides for urban and suburban densities and serves them in a cost-effective manner. This category is applied to lands not presently included in the 20 year land supply inventory, but which are likely to be transferred to this category at some future time. Classification as growth reserve, however, does not absolutely guarantee ultimate inclusion in the 20 year land supply inventory.	.0125	.025	40 ac	80 ac	P	D	X	X	X

¹ Assumes 28% of gross acreage is consumed by residential streets, small scale neighborhood recreation facilities, and site limitations.

² Assumes 9% of gross acreage is consumed by residential streets, small scale neighborhood recreation facilities, and site limitations.

³ Zoning determined by land capability analysis.

⁴ Variable lot size density averaging available.

⁵ Includes mobile homes and factory built housing.

P = permitted by right.

D = permitted subject to discretionary review.

X = Not permitted

TABLE CO-10: COMMERCIAL LAND USE CATEGORIES AND POLICIES

<u>Commercial Category</u>	<u>Description</u>	<u>Locational Requirements</u>	<u>Size and Scale</u>
Regional Center	Provides a variety and depth of shopping goods, including general merchandise, apparel, and home furnishings, as well as a variety of services. One or more major department stores are the primary tenants. Complementary uses may include offices providing for professional, business service or administrative functions and recreation facilities such as theaters, and financial institutions.	See Policy CO-i. Support market area population of 150,000 or more persons.	Over 300,000 sq. ft. of retail space
Community Center	Provides a wide range of facilities for the sale of shopping goods, such as apparel and furniture, and may include banking and professional services and recreation facilities. A junior department store, variety store, or discount department store is the principal tenant.	Along arterial, preferably at junction of arterials or junction of collector and arterial. Located within the designated transit service corridor when serving urban fringe area of Redding and Anderson. Support market area population of 30,000 to 60,000 persons within approximately 10 minutes driving time. Located within the designated transit service corridor when serving urban fringe area of Redding and Anderson.	100,000 to 300,000 square ft. of retail space; 10 to 30 acres.

<u>Commercial Category</u>	<u>Description</u>	<u>Locational Requirements</u>	<u>Size and Scale</u>
Neighborhood Center	Provides for the sale of daily needs - convenience goods such as food, drugs, hardware, and personal services. A supermarket, often in conjunction with a super drugstore, is the principal tenant.	Along arterial, collector street or junction of arterial and collector. Located within the designated transit service corridor when serving urban fringe area of Redding and Anderson. Support market area population of 8,000 to 15,000 persons within five minutes driving time for urban areas. Located within the designated transit service corridor when serving urban fringe area of Redding and Anderson.	30,000 to 100,000 sq. ft. of retail space. 3 to 5 acres
Rural Community Mixed Use Center	The purpose of this category is to allow rural communities to develop areas incorporating a mix of both local and tourist-oriented retail uses, professional offices, light industrial, and residential uses. Provides a wide range of goods and services to residents and businesses. Small scale establishments provide convenience goods such as food and drugs, goods, materials and repairs services needed by agricultural and forestry related business, and travel accommodations for recreation visitors. This category recognizes that in a rural setting the strict segregation of different land use types which is typically found in urban environments is neither necessary nor practical. At this scale conflicts which may result from the intermixing of land uses may be addressed by site specific performance standards relating to screening, setbacks, and architectural design.	As designated on General Plan Land use Maps. Support market area varies according to level of agricultural, forestry, and recreation activity in area and proximity to urban centers.	10,000 to 50,000 sq. ft. of retail space plus other commercial space. 1 to 10 acres.

<u>Commercial Category</u>	<u>Description</u>	<u>Locational Requirements</u>	<u>Size and Scale</u>
Local Convenience Center	Provides a limited selection of convenience goods within either walking distance or brief driving distance of residents. Primary tenant is usually a small grocery store which might be supplemented by gas station, laundromat or other small establishments providing services to residents in the immediate area.	Along residential collector streets. Support market area population of 1,000 to 3,500 persons within two to three minutes driving time.	3,000 to 10,000 sq. ft. of retail space; 1/4 to 1 acre.
Travel Accommodations	Provides for the needs of recreation and business visitors. Accommodation include various combinations of lodging, restaurants, gas stations and automotive service, food supplies, recreation supplies and equipment and may also include recreation facilities and small retail shops which primarily serve visitor needs.	Along access road to I-5, fronting on state highways, or along arterials providing access to major recreation destinations. Support market area function of both resident population, recreation visitors, business visitors and function of roadway serving these uses.	One to 5 acres.
General Commercial	Provides for a wide range of goods and services needed by residents and business firms which are inappropriate in regional, community or neighborhood centers due to size or operating characteristics or are not economically feasible in such centers. Uses include sale of construction and building materials (lumber, hardware, tile, plumbing equipment, electrical supplies, etc.), auto parts, construction equipment, restaurant supplies, autos and trucks. Other uses provide basic services such as vehicular repair, plumbing, electrical, and fabrication of wood or metal.	Along arterial streets or in conjunction with business park.	Not applicable

<u>Commercial Category</u>	<u>Description</u>	<u>Locational Requirements</u>	<u>Size and Scale</u>
Office Center or Business Park	Provides office space for firms providing administrative, professional or financial services. May also include other firms providing computer, reproduction, laboratory testing, and similar services whose operation and scale are compatible with the primary office uses. Small scale retail uses, primarily for use by employees of the area, may also be included. (Note the distinction between office/business park and industrial/business park.	Along arterial or collector with easy access to arterial. To be sited within the designated transit service corridor when located in SCR.	Highly variable.
Commercial Recreation.	Provides opportunities for the development of privately owned lands characterized by exceptional natural features for the purposes of providing commercial recreation services to the public.	As designated on General Plan Land Use maps.	Depends on size of natural resource.

Source: Sedway/Cooke

TABLE CO-11: INDUSTRIAL LAND USE CATEGORIES AND POLICIES

<u>Industrial Category</u>	<u>Description of Uses</u>	<u>Access and Location Requirements</u>	<u>Site Planning Requirements</u>
General Industrial	Provides for the intermixing of industrial uses with varying degrees of impacts, scales of operation, and service requirements. Permits the inclusion of non-industrial uses providing materials and services primarily to adjacent industrial uses. Other non-industrial uses may be permitted on an interim basis with conditions providing for reversion to industrial uses.	Located along a freeway, highway, or arterial and in relative proximity to the designated transit service corridor if located in the SCR Planning Area.	Any adjacent residential uses should be buffered from high impact industrial uses.
Industrial Park	Provides for the planned development of industrial parks or districts occupied by uses characterized by low or moderate impacts, varying scales of operations, and similar service requirements.	Located within an urban or town center along a freeway, highway, or arterial with direct access to a highway, and in relative proximity to the transit service corridor, if located in the SCR Planning Area.	Comprehensive site planning should a) closely relate internal circulation system to external network, including transit stops; b) use landscaping to provide an attractive working environment; and c) provide for phased expansion.
Rail-Served Industrial	Provides exclusively for industrial uses requiring rail access	Large blocks of land served by major rail service, with vehicular access to I-5 and state highways by arterial, collector or direct connections and free from potential land use conflicts with residential users.	Ensure maximum opportunities for providing rail access.
Mineral-Extraction Industrial	Provides for the processing, refining, and packaging of minerals	Located on the same site as a mineral extraction operation and in close proximity to a mineral extraction site.	Any adjacent residential uses should be buffered from high impact industrial operations.

PLANNING AREA POLICIES		
Sacramento Canyon	CO(SC)-a	The development pattern shall respect timber resources, the Shasta Trinity National Recreation Area, habitat values, outstanding scenic values along the I-5 corridor, and limitations on the use of on-site wastewater treatment systems.
	CO(SC)-b	The development pattern shall provide for growth accommodation and opportunities for rural living primarily within the Rural Community Centers of Lakeshore, Lakehead, Castella/Sweetbriar, and South Dunsmuir in accordance with their respective plans.
Northwestern Forest	CO(NF)-a	The development pattern shall respect timber resources, the Shasta Trinity National Recreation Area, habitat values, and constraints presented by the unavailability of groundwater, limitations on the use of on-site wastewater treatment systems, and limited road access via publicly maintained roads.
Big Bend	CO(BB)-a	The development pattern shall respect timber resources, the Shasta Trinity National Recreation Area, habitat values and constraints presented by the unavailability of groundwater and limitations on the use of on-site wastewater treatment systems.
	CO(BB)-b	The development pattern shall provide for growth accommodation and rural living opportunities primarily within the Rural Community Centers of Round Mountain, Montgomery Creek, and Big Bend in accordance with their respective plans.
Northeast Shasta	CO(NS)-a	The development pattern shall respect the timber and agricultural resources and the recreation resources of state parks.
	CO(NS)-b	The development pattern shall provide for growth accommodation primarily within the Town Centers of Burney/Johnson Park and Fall River Mills/McArthur and secondarily within the Rural Community Centers of Cassel and Hat Creek.
	CO(NS)-c	The development pattern shall maintain the positions of the Town Centers of Burney/Johnson Park and Fall River Mills/McArthur as major employment centers by providing that new employment opportunities be located within them.
	CO(NS)-d	The periodic review of this development pattern shall recognize the geographic and economic independence of this planning area and allow it to achieve its own development destiny.
Lassen	CO(LS)-a	The development pattern for this area recognizes that virtually all of it is under federal and state jurisdiction

and thus provides that it shall not be expected to accommodate any growth.

CO(LS)-b The development pattern shall recognize the Rural Community Center located at Old Station.

Eastern Forest

CO(EF)-a The development pattern shall respect the exceptional timber resources and constraints presented by the unavailability of groundwater and limitations on the use of on-site wastewater treatment systems.

CO(EF)-b The development pattern shall provide for growth accommodation and opportunities for rural living primarily within the Rural Community Center of Shingletown in accordance with its plan.

Eastern Upland

CO(EU)-a The development pattern shall respect ranching and related agricultural operations and the constraints presented by unavailability of groundwater and limitations of the use of on-site wastewater treatment systems.

CO(EU)-b The development pattern shall provide for growth accommodations and opportunities for rural living primarily within the Rural Community Centers of Millville, Whitmore, and Oak Run in accordance with their respective plans.

South Central Region

CO(SCR)-a The development pattern shall recognize this area's major role in accommodating the growth experienced by the County.

CO(SCR)-b The development pattern shall provide opportunities for rural living in close proximity to employment opportunities within the Rural Community Centers of Mountain Gate, Jones Valley, Bella Vista, Palo Cedro, Happy Valley, Centerville and Old Shasta Keswick.

CO(SCR)-c The development pattern shall preserve the unique quality of life available within the Unincorporated Town Centers of Central Valley, Cottonwood, and Upper Churn Creek and the Incorporated Urban Centers of Anderson and Redding, that is living environments offering urban amenities and economic opportunities without the problems typically associated with urban areas.

CO(SCR)-d The development pattern shall relate new development to a level of services, including the timing of their provision, appropriate for the density/intensity of land use planned for its location.

CO(SCR)-e The development pattern shall encourage the establishment of interjurisdictional solutions to providing services to new development so that these costs may achieve long-range as well as short-term economies.

Western Upland

CO(WU)-a The development pattern shall respect timber resources, ranching and related agricultural operations, and the constraints presented by the unavailability of groundwater and limitations on the use of on-site wastewater treatment systems.

CO(WU)-b The development pattern shall provide for growth accommodation and opportunities for rural living primarily within the Rural Community Centers of Igo, Ono, and Platina.

French Gulch

CO(FG)-a The development pattern shall respect timber resources, mineral resources, the Whiskeytown National Recreation Area, and the constraints presented by the unavailability of groundwater and limitations on the use of on-site wastewater treatment systems.

IMPLEMENTATION

Policies in this element will be implemented through two general programs. One will be the creation of an Advanced Planning Division within the Planning Department. This will require a staff commitment of 4-5 professionals plus support staff. A major responsibility of this division will be to monitor the growth of the County as it relates to the consumption of the land supply inventory. This task will require a considerable data collection effort. A key initial step will be establishing a geographic system for data collection.

For purposes of the General Plan Revision Program, the County was divided into ten planning areas. From the perspective of physical data collection, these geographic areas worked well. Less successful were efforts to relate these areas to census enumeration districts. The Planning Department should immediately initiate the revision of the enumeration district boundaries to conform to the planning area boundaries. In reviewing these boundaries, the boundaries of assessor's book maps should also be consulted. These are relatively small grained and fit fairly well within the planning areas. Finally, school district and special district boundaries should also be consulted. Some compromises among different sets of boundaries will probably be necessary and desirable. The net result is to have a geographically consistent set of boundaries for the collection and analysis of physical, demographic, land division, public facility, and building permit data by structure type and location.

Once established, these geographic subunits will be useful only with the availability of a uniform base mapping system. The existing mapping system is not adequate for data collection purposes, nor will they serve the purpose for the zoning ordinance text and map revisions, discussed below.

The second major program required to implement the policies of this element relates to zoning. It is absolutely essential, and required by State law, that the land use categories specified in the Plan text and used in the Planning Area Maps be immediately and completely translated into zoning districts and maps. This will require major revision of the existing zoning ordinance, including the

creation of new districts, and a massive remapping effort. The permitted types and intensities of uses on a substantial number of properties will be changed to different uses and/or greater or lesser densities.

ECONOMIC DEVELOPMENT

INTRODUCTION

The economic development element is an optional general plan element authorized by Section 65303(k) of the Government Code. Economic development planning is defined here as the optimum use of a community's scarce economic resources in a long-range process designed to effect lasting changes in the local economy and thereby preserve and enhance the quality of life. As discussed below will demonstrate, the economic development planning function in Shasta County is performed by the Overall Economic Development Program (OEDP) Committee. Therefore, it is not the purpose of this element to present an economic development plan. Instead its purpose is to present objectives and policies addressing the role of land use planning and regulation in economic development planning as defined by the OEDP Committee.

FINDINGS

Economy of Shasta County

The three major industries of the County in order of importance are timber, tourism, and agriculture. Each of these industries is dependent on the natural resource base of the County, which has both advantages and disadvantages. On the one hand, the natural resource base, if carefully managed, is a renewable resource and will always be available. On the other hand, employment in these industries tends to be seasonal, is extremely sensitive to fluctuations in the national economy, and is vulnerable to loss of the resource base to competing land uses. These are the major issues which must be addressed by local economic development planning.

Need for Economic Development Planning

In the United States economic development planning has traditionally been the domain of the private sector and never has been the exclusive responsibility of government. Recently this situation has changed at the local level and there has been increased interest in joint private-public sector economic development planning. Several reasons explain this development.

First, the resources available for economic development have become substantially more limited in recent years. There is less land available for this purpose; natural resources are less available; environmental restrictions have limited the uses to which resources can be put; available public revenues have been shrinking, due to either the rapidly rising costs of municipal services or the public clamour for reduced taxes, or both; and, finally, the

¹The following discussion is taken from Local Economic Development Planning: From Goals to Projects. American Planning Association, PAS Report No. 353.

overall real rate of economic growth throughout the nation has both declined and shifted its geographic concentration in recent years, with the consequence that many communities are no longer assured — as they once were — of obtaining a satisfactory share of a general national prosperity. Communities are becoming increasingly aware of the need to husband, control, and direct their resources in order to assure an economic future consistent with community interests.

Second, heightened concern for the quality of the environment in recent years has made many communities realize, for the first time, that planning will take place whether or not they are participants in it. Communities that five years ago rejected zoning ordinances as infringements on personal freedoms today are not only passing zoning ordinances, they are requesting state and federal assistance to undertake economic development planning. This has come about because they have realized that cherished community qualities can be destroyed as a result of decisions made by enterprises concerned primarily with their own interests. The growing view is that the freedom to enjoy traditional attributes of the community environment may be infringed upon by planners in the private interest in the absence of planning in the public interest.

The growing concern with local economic development planning arises also from very practical considerations relating to programs of federal assistance for local economic development activities. In an effort to obtain the greatest returns on their investments in local areas, federal agencies are increasingly seeking to coordinate their efforts and identify projects that will allow them to integrate their various resources. Federal agencies also are very much concerned with the size of the complementary private investment that will be induced by the development assistance they provide. The ideal project, from the perspective of federal economic development programs, is one in which a relatively modest injection of program funds stimulates a much larger investment of funds from other sources. It is easy to see that such projects can be developed most readily through a local economic development planning process.

Shasta County Economic Development Planning

Shasta County predated this national trend in that it recognized early on the need for joint private-public economic development planning. The Economic Development Corporation (EDC) of Shasta County was formed in 1958 to promote industrial and economic growth to alleviate the high seasonal unemployment of the County's two major industries - forest products and tourism. In 1965 the EDC expanded its activities, previously focused on area promotion, to include economic development planning through its designation by the Board of Supervisors as the Overall Economic Development

Program (OEDP) Committee. This Committee initiated a diverse program whose most outstanding achievement is the Mountain Lakes Industrial Park. In 1977 the Committee promulgated its initial OEDP, including a detailed development strategy.

Two years later economic development planning in Shasta County took another evolutionary step forward with the establishment of the Superior California Development Council (SCDC). This agency is an amalgamation of the OEDP Committees of four Northern California counties - Modoc, Shasta, Siskiyou and Trinity. In 1980 the SCDC promulgated its four county OEDP covering the period from August 1980 to 1982. Listed below are objectives contained in the program's development strategy which have land use planning implications. These objectives are:

- Through comprehensive planning tools (zoning ordinances, subdivisions, ordinances, comprehensive plans, etc.) seek to preserve prime forest and agricultural lands.
- Assist communities and counties in land use planning to mitigate the impacts of residential development on agricultural lands and second home development on range lands.
- Water quality of the district needs to be preserved and in many cases improved. Floodplain management must be given a high priority in the local planning program.
- Investigate model energy elements for inclusion in local general plans.
- To develop an efficient multi-modal transportation system for the movement of people and commodities in the region.
- Assist communities in packaging sewer and water improvement projects.
- Assist housing authorities, developers, and communities in public housing projects and rehabilitation programs (especially low-income and elderly).
- Seek adequate amounts of land zoned for commercial and industrial usage through the comprehensive planning program.

Most of the above objectives are reflected below in the General Plan economic development objectives. Those objectives not reflected below are incorporated in other elements of the Plan.

Demand for Land for Employment Purposes

Countywide employment projections for the next twenty years were developed for Shasta County. These projections were converted into acres of land required for employment purposes. The derivation of these projections is discussed in Appendix A. Because employment projections were based on population projections, low and high land requirement projections were developed.

In order to ensure that enough land will be available for employment purposes, the high projections are used and it is

assumed that these requirements will be accommodated within the unincorporated area of the County.

OBJECTIVES

- ED-1 Provision of a land development pattern, planning process, and regulatory atmosphere conducive to maintaining employment opportunities for County residents and fostering new economic development.
- ED-2 Development of a land use pattern which geographically relates jobs to housing so that distances travelled to work may be reduced and the employment opportunities available to County residents maximized.
- ED-3 Creation of opportunities for new businesses and industrial firms to locate within Urban, Town, and Rural Community Centers, provided such opportunities are in keeping with the scale of these communities.
- ED-4 Protection and enhancement of recreation and scenic resources to safeguard and promote recreation-based employment.
- ED-5 Protection, enhancement, and increased utilization of the renewable resource base of Shasta County to:
 - Maintain the employment opportunities provided by the agriculture and forest products manufacturing industries;
 - Develop new employment opportunities oriented around renewable energy resources; and
 - Replace the use of imported, nonrenewable energy resources with locally available renewable energy resources.
- ED-6 Improvement of the transportation system (road, rail and air) to facilitate economic development.
- ED-7 Designation of and protection from preemption by other land uses of locations especially well-suited for industrial development based on transportation access, availability of public services, proximity to compatible land uses, and size and configuration.

POLICIES

- ED-a Shasta County shall ensure that a 15-20 year land supply of land required for employment purpose is available within the County. The County shall continue its close working relationship with the OEDP Committee to monitor the demand and supply of land for employment purposes and shall make appropriate, periodic revisions in the General Plan to maintain the availability of employment land within the unincorporated area.
- ED-b Decisions concerning the geographic siting of lands available for employment purposes and the siting of employment

generators on these lands shall examine their location relative to affordable housing opportunities for potential or prospective employees. These decisions shall explicitly consider alternative sites which would increase housing opportunities through geographic proximity, reduction in travel time, or access to modes of transportation in addition to the automobile.

ED-c New businesses and industrial firms shall be encouraged to locate within Urban, Town, and Rural Community Centers in order to achieve objective ED-2, but these businesses and firms must be compatible with the scale of the community they are locating in so that the character of its living environment is preserved. Factors which shall be considered in assessing compatibility of a business or firm include:

- land area required
- size of work force and need for in-commuting
- transportation system requirements
- any noise, air quality, or water quality impacts
- physical appearance of structures.

This policy recognizes that it will be impossible to preserve the exact character of community in all cases. Its intent is to allow economic development to occur, but in a manner which will substantially preserve community character.

ED-d In order to carry out the previous policies, the General Plan shall contain several commercial and industrial land use categories, each of which is described in Tables CO-10 and CO-11, located in the Community Development Element.

ED-e Recreation and scenic resources of the County's tourist industry shall be protected by the application of the Natural Resource Protection land use category as described in the Open Space and Recreation Element.

ED-f The Timber, Grazing Lands, and Croplands land use categories shall be used as described in the Timber and Agricultural Elements to protect the land use resources of these industries and thus maintain the employment opportunities they offer.

ED-g The renewable resource base of the County shall be explored and utilized as described in the Energy Element to develop employment opportunities.

ED-h The transportation system of the County shall be maintained and developed as described in the Circulation Element in order to facilitate economic development and employment growth.

ED-i Lands well-suited for industrial development based on transportation access, availability of public services,

relationship to adjacent land uses, size, and configuration shall be placed in the Industrial land use category.

IMPLEMENTATION

Implementation of policy ED-a will be accomplished simultaneously with the implementation of policy CO-a by the Advanced Planning Division of the County Planning Department.

Policy ED-b will be implemented through the General Plan Planning Area maps and discretionary review of projects by the Planning Commission and Board of Supervisors. Discretionary review, combined with informal review by the Planning Department of development proposals, will also be used to implement policy ED-c.

Implementation of policies ED-d, ED-e, ED-f, ED-g, ED-h, and ED-i are self-explanatory.

HOUSING

INTRODUCTION

This element is concerned with the provision of adequate housing opportunities for existing and future Shasta County residents of all age, race, religious, economic and physical capability groups. Housing is one of nine mandatory elements which must be included in general plans. Its specific requirements are set forth in Sections 65580-65589 of the Government Code.

In contrast to the other mandatory elements of the General Plan, the California Legislature has established a state housing goal to which housing elements adopted by local governments must respond. This goal recognizes the statewide importance of the availability of housing and establishes the attainment of decent, affordable housing and a suitable living environment for every California family as a priority of the highest order (Government Code, Section 65580). To ensure the attainment of this state housing goal, the Legislature has adopted specific regulations governing the preparation of local housing elements. Among the more important of these regulations are those requiring a local government to establish quantified housing objectives and a five year action program responsive to these objectives. These legislative regulations also require local governments to consider housing element guidelines adopted by the State Department of Housing and Community Development (HCD) when preparing their housing elements. Finally, HCD must review all elements and proposed amendments submitted to them and report their findings to the local legislative body prior to final adoption of the housing element or amendment.

The Housing Element which follows and the supporting material presented in Appendix H conforms to the housing element regulations cited above.

FINDINGS

Housing Needs in Shasta County

The housing market of Shasta County cannot adequately meet the needs of a substantial number of Shasta County residents who must rely exclusively on their own resources. This condition will continue in the future and, in terms of numbers of persons affected, will increase with the population growth of the County. Appendix H quantifies the current unmet and short term housing needs of Shasta County residents. Briefly stated, the current housing needs of Shasta County residents include the need to rehabilitate approximately 1,240 substandard housing units located in the unincorporated area and the need to find affordable housing for the approximately 3000 unincorporated area residents who pay more than 25% of their income for rental housing. Short-term projected need is to provide 5,358 housing units in unincorporated areas during the period 1982-1986. Approximately 2,520 of these units will need to be provided at a below market rate or price in order to be affordable by lower income County residents.

As noted in the Introduction to this element, the California Legislature has established a statewide housing goal of decent, affordable housing for California families. The parameters of this goal as it applies to Shasta County are defined by the above summary of housing needs. The Legislature has assigned a major responsibility for achieving this goal to local governments through their housing elements; specifically the legislature requires a Housing Element to contain quantified objectives and a five year action program responsive to these objectives. This assignment comes at a time when local government's range of options in this area has been substantially reduced. Their ability to collect and expend tax revenues has been curtailed by Propositions 13 and 4, and resources once available from the State and Federal governments have largely disappeared. In recognition of these facts, State law provides that the five-year housing objectives contained in the Housing Element may be less than housing needs when the latter exceed the resources available to the community to completely satisfy them. Under such circumstances, the quantified housing objectives must establish the maximum number of housing units that can be constructed, rehabilitated, and conserved over the five-year time frame. This approach is reflected in the following objectives.

OBJECTIVES

- H-1 Construction of 2,000 units of below market rate housing, rehabilitation of 1,240 units of substandard housing and provision of rental assistance on an annual basis to 400 households during the five year period 1982-1986.
- H-2 Provision of an adequate supply of land to accomodate the housing growth anticipated during the period 1982-1986.
- H-3 Development of a mix and range of housing opportunities designed to meet the needs of a diversity of County residents with respect to income, age (senior citizens), family circumstances, and physical capabilities.
- H-4 Location of housing in areas within the County served by public services and accessible to employment opportunities.

- H-5 Maintenance of the existing housing stock and the integrity of existing residential communities.
- H-6 Open housing for all persons, regardless of sex, race, ethnic origin, physical condition, income, or family size.
- H-7 Energy efficient housing in terms of structural design, siting with respect to climate and solar energy, and relationship to supporting public facilities.

POLICIES

- H-a Shasta County shall, in coordination with the cities of Anderson and Redding, ensure the availability within the County of an inventory of developable lands sufficient to accommodate the housing growth established in objective H-1 and sufficient to accommodate the population growth projected for the planning period.
- H-b Shasta County shall review the planning and regulatory process to ensure consistency between the Plan and zoning ordinance and to facilitate understanding of requirements applicable to residential projects.
- H-c The Planning Department shall be the central permit agency for all residential development and the Building Inspection Department shall be relocated within the Planning Department.
- H-d Shasta County shall develop a program for providing incentives, including density bonuses, for the construction of low and moderate cost housing. The Housing Authority shall be responsible for monitoring the sale or rental of units constructed under this program.
- H-e Shasta County shall encourage the use of manufactured housing to help meet the housing needs of its residents.
- H-f The Shasta County Housing Authority shall expand its function to include dissemination of information and the provision of organizational skills relative to housing.
- H-g In accordance with state law, the Housing Element shall be revised every five years, except that the initial revision shall be completed by July 1, 1984. In preparation for this initial revision, the housing needs reflected in Objective H-1 shall be reviewed and revised once detailed 1980 census information becomes available.

IMPLEMENTATION

The program for implementing the Housing Element has three components:

- Planning and Regulation
- Resources
- Information.

These components are listed in order of their likely degree of impact. Planning and Regulation is concerned with modifying the public planning and regulatory framework in which the housing market operates to enable it to perform more productively and efficiently, thus lowering the cost of the housing it provides. The Resources component addresses opportunities which the County should pursue to capture Federal and State financial resources available to meet local housing needs. The Information component focuses on the role the County should play in disseminating information on housing resources available to individuals and households. Each of these components is discussed below.

Planning and Regulatory Approaches

County government exercises land use planning and regulatory authority over most of the privately owned lands within its boundaries. Some of these lands are located in unincorporated urban or potentially urban areas which could be developed at densities permitting the construction of lower cost housing. The single most important action which should be taken by the County is to ensure, through its planning process, that these areas are made available for development at densities supportive of providing low or moderate cost housing. For this action to be successful, on a Countywide basis there must be available a supply of developable land sufficient to accommodate the projected residential growth. An inadequate supply will tend to drive up the prices of residential building sites, which in turn will be reflected in housing costs. Obviously, the County cannot act independently, but must coordinate its efforts to accommodate growth with the land use planning activities of Anderson and Redding.

The planning and regulatory process itself exerts an important influence on the production of housing. Three elements of this process are critical. They are: .

- Consistency between the General Plan and zoning ordinance,
- The ability to readily determine the applicable regulations and certainty in their application, and
- Reasonable assurance that the overall time period required to pass through the regulatory process is as short as practicable and will be followed.

Consistency between the General Plan and zoning ordinance is fundamental to a smoothly operating planning and regulatory process. Without consistency there exists the potential for misunderstanding, confusion and litigation, all requiring the use of resources which would otherwise be directed toward housing production.

Closely related to the need for consistency is the need to easily determine the regulations applicable to a given housing project and fully communicate them to the prospective developer. Once the applicable regulations are determined, there must be concrete assurances that these regulations, and only these regulations, will be applied. Provision must be made for contingencies, but the basic principle is that the regulatory framework is established at the front end of a project rather than during its execution.

Appendix H discusses the impact of delays in the regulatory process on housing costs. It is estimated that each month of delay adds 1-1/2% to the cost of the housing unit. Not only is there the need for this process to be of short duration, but once initiated it should proceed expeditiously. Section 65913.3 of the Government Code, which becomes effective January 1, 1983, requires "one stop" permit processing for residential developments, if requested by the developer. The intent of this section is to expedite permit processing and reduce the costs of obtaining required permits. Shasta County should immediately take steps to make one-stop permit processing available as a matter of course to all residential developments. The Building Inspection Department, once a part of the Planning Department, should be returned to Planning, which should also assume responsibility for coordinating County review and processing of all permits required by residential development.

Shasta County should also exercise its regulatory authority to provide incentives for the production of lower cost housing. Incentives include preferential or accelerated permit processing, waiver of permit fees, waiver of design requirements, and an increase in the density over that otherwise permitted by the applicable zoning (density bonus). Section 65915 of the Government Code requires the awarding of either a density bonus or two other incentives to developers who agree to construct a housing development of five or more units, 25% of which are affordable by persons and families of low or moderate incomes. This section affords local government broad discretion in carrying out this requirement. Shasta County should use this provision of the code to actively encourage construction of low or moderate cost units and to use the County Housing Authority as the agency for monitoring the sale or rental of these units to guarantee their continued accessibility to low and moderate income families.

As shown in Figure H-1 of Appendix H, manufactured housing presents relatively low cost housing opportunities. The County zoning ordinance should be revised to reflect recent amendments in State law regarding mobile homes or manufactured housing (Government Code Section 65852.3) and to facilitate the provision of this type of housing. Mobile homes should be permitted on lots zoned for single family dwellings, subject to design standards regarding roof overhang, roofing material, and siding materials to achieve compatibility with existing single family dwellings.

Resources

The County should continue its participation in the Housing and Urban Development (HUD) Section 8 Lower-Income Rental Assistance Program, which makes up the difference between what a lower income household can afford and the fair market rent for an adequate housing unit.

The County should investigate the feasibility of using the County Housing Authority to directly sponsor or encourage the sponsorship by qualified developers of housing projects which may utilize some or all of the following federal and state housing programs:

- HUD Section 202, Direct Loans for Housing for the Elderly or Handicapped - makes long term direct loans to eligible private nonprofit sponsors to finance the construction of rental or cooperative housing facilities for elderly or handicapped persons.

- HUD Section 213, Cooperative Housing - insures mortgages made by private lending institutions to nonprofit corporations or trusts to construct, rehabilitate, or acquire housing to be occupied by members of nonprofit cooperative ownership housing corporations.
- HUD Section 221(d)(3), Multi-family Rental Housing for Low and Moderate Income Families - insures mortgages made to public agencies or nonprofit organizations to finance construction or rehabilitation of multi-family or rental or cooperative housing.
- HUD Section 236, Rental and Cooperative Housing Assistance for Lower-Income Families - provides mortgage insurance, interest reduction, and operating subsidies to nonprofit organizations providing rental housing to lower income families.
- Farmers Home Administration (FmHA) Section 515, Rural Rental and Cooperative Housing Program - makes direct loans to nonprofit, profit-oriented, or limited profit housing sponsors who are building rental and cooperative housing for senior citizens and families of low and moderate income.
- California Department of Housing and Community Development (HCD) Rental Housing Construction Program - provides funds through local agencies for the development of new rental units by private, nonprofit, or public agency sponsors.
- HCD Deferred Payment Rehabilitation Loan Program - provides funds to local agencies which they in turn use to make loans to homeowners of low and moderate income and to rental housing developments occupied by low and moderate income persons.
- HCD Rural Predevelopment Loan Fund - provides loans to local government agencies, nonprofit organizations, and cooperative housing corporations for the preliminary costs of developing assisted housing for low income families and elderly or handicapped persons in rural areas.
- HCD Rural Land Purchase Fund - provides funds to local governmental agencies and nonprofit organizations for the purchase of land in rural areas for the development of housing for low income persons.

Information

In addition to the options it may exercise with respect to its planning and regulatory functions, Shasta County should act as a source of information and organizational skills to enable citizens to help meet their housing needs. The County should aggressively pursue State and Federal programs offering housing resources and coordinate their dissemination within the County. Implicit in these approaches is a considerably expanded role of the Housing Authority. Specific approaches are outlined below.

Shasta County should publicly announce and disseminate information on the availability of various federal housing programs. Particular emphasis should be placed on the following programs:

- Federal Housing Administration - Section 231: Rental Housing Insurance for the Elderly and Handicapped
- Farmers Home Administration - Section 523 and 524: Rural Self Help Housing Technical Assistance
- Housing and Urban Development - Section 235: Homeownership Assistance for Low and Moderate Income Families.
- The County should support and promote programs to facilitate the financing of mobile home purchases. The following program is particularly appropriate: California Department of Housing and Community Development equity sharing program, in which the state agency will provide up to 49 percent of the purchase price to households who wish to purchase rental housing that is being converted to condominiums or cooperative ownership, to households who wish to purchase mobile homes not located within mobile home parks, to nonprofit and stock cooperative corporations, and to households who wish to purchase shares in a cooperative corporation.

The County should assist in the creation of nonprofit housing development corporations and housing cooperatives by providing interested groups with technical assistance.

In addition to the programs that are appropriate for assisting low and moderate income households, the County should actively encourage the use of the following programs:

- California Franchise Tax Board - Renter's Assistance Program, Renters Credit Program and Property Tax Assistance Program.
- U.S. Department of Housing and Urban Development - Section 202: Direct Loans for Housing for the Elderly or Handicapped.
- California Department of Housing and Community Development - Demonstration Elderly Housing Rehabilitation Program.

The County should maintain a list of elderly who would be interested in participating in a share-a-house program, which would match an elderly person with another compatible person seeking housing.

The County should actively promote the flow of information about available home repair loan and grant programs. The County should emphasize the following programs:

- Housing and Urban Development - Section 312: Rehabilitation Loans
- California Housing and Community Development Apartment - Deferred Payment Rehabilitation Loan Program
- California Housing Financing Agency - Direct Loans
- Farmers Home Administration - Section 502: Homeownership and Rehabilitation Loans

- Farmers Home Administration - Section 504: Home Repair Loans and Grants.

The County should prepare community plans for its unincorporated communities and conduct housing inspections to identify target areas for rehabilitation.

The County should cooperate with school districts to encourage local high schools to establish programs enabling students to gain practical experience in home construction and repair.

CIRCULATION

INTRODUCTION

Circulation is concerned with the movement of people and goods at various scales, beginning at the community level and continuing at increasingly larger and more complex scales. Section 65302 of the Government Code requires that the circulation element address the general location and extent of existing and proposed major thoroughfares, transportation routes, terminals, and other local public utilities and facilities. As will be demonstrated below in the findings section of this element, circulation is functionally inter-related with the land use pattern prescribed in the Community Organization and Development Element and has major implications for other elements, including noise, air quality, energy and community design.

FINDINGS

Elements of the Circulation System

The circulation system of Shasta County comprises several physical elements, some of which may be used by more than one mode or method of transportation. The level of treatment of each mode of transportation by the circulation element reflects its importance in the overall system.

Highways and Streets

Highways and streets are the most extensive element of the County's circulation system and they are used by both vehicular and nonvehicular modes of transportation. The privately owned automobile is the dominant mode of vehicular transportation, followed by trucks, buses, taxicabs, and bicycles. Nonvehicular modes of transportation are walking and horseback riding. Not all of the above modes of transportation can use the same highway or street at the same time without special provisions to avoid conflicts. Bicycle, pedestrian, and equestrian modes require the reservation of a portion of the right of way for their exclusive use, although some would argue that proper driver education would enable bicycles to use the vehicular right-of-way.

Public Transportation includes three interregional bus lines, a local bus service between downtown Redding and the Redding Municipal Airport, two local taxicab companies, several social service transportation systems serving primarily the elderly and the disabled and the school buses. In the near future, the Redding Area Bus Authority will begin providing service within the City along five fixed routes centered on downtown Redding. Using 60 minute headways, all buses will simultaneously meet every hour between 8:00

a.m. and 6:00 p.m., five days per week at this central location to allow inter-route transfers.

Interstate 5 is the major highway in Shasta County and its intersection in Redding with other State and County roads, including Routes 299 and 44, forms the focal point for the highway transportation network of the County. In the eastern portion of the County, Route 89 provides a north-south link between Routes 299 and 44.

Railroads

Shasta County is served by two railroad lines - The Southern Pacific single track main line which parallels Interstate 5, and the McCloud River Railroad, a single track short line running from McCloud to Burney. Southern Pacific carries both passengers and freight, while the McCloud hauls only freight.

Railroad transportation supplements and in some instances directly competes with transportation provided by trucks.

Air Travel

There are four publicly owned airports in the County. Redding Municipal and Benton Field are owned by the City of Redding. Shasta County owns the Fall River Mills and Shingletown Airports. Redding Municipal provides scheduled air carrier service while charter service is available at Benton Field and Redding Municipal Airport. Two privately owned airports, Enterprise Sky Park and Redding Sky Ranch, are located in Shasta County.

Pipe and Transmission Lines

Pacific Gas and Electric operates several natural gas pipelines within the County, and PG&E and the Central Valley Project maintain electric transmission lines serving hydroelectric projects throughout the County.

County Overview

The central facts concerning the circulation system in Shasta County are its dependence on the privately owned automobile and the location of a major multi-modal (auto, truck, bus, rail, air, and pipe and transmission line) transportation corridor within the SCR Planning Area.

Relationship of Circulation System to Community Development Pattern

The circulation system and development pattern of a community are interdependent. A particular development or land use pattern will generate special, quantifiable circulation requirements with respect to the combination of system elements and modes of transportation. The range of options available to meet these requirements will in part be determined by the existing development pattern. To use simplistic examples, the option of providing an airport to meet the need for fast freight delivery will be limited as to acceptable terminal locations by the existing development pattern. Likewise, the option to widen a roadway to increase its capacity will be shaped by the land use pattern adjacent to the existing right-of-way.

Conversely, the design of a circulation system provided in a certain geographic area will play a major role in shaping its future development pattern. The most dramatic example of this relationship is the construction of an interstate highway through a

previously undeveloped area. The exact route of the highway and the size, location, and spacing of interchanges will exert major influences on the type and intensity of future land uses.

The experience of Shasta County during the past two decades demonstrates that the development pattern of a community can substantially change in a relatively short period of time. Changes in the development pattern necessitate changes in the circulation system. However, as noted above, the pre-existing development pattern can significantly limit the options available to meet these requirements, either completely excluding them or greatly increasing their costs.

Since the General Plan prescribes a future development pattern, it also presents the opportunity to formulate a desired circulation system to serve this pattern and guide development so that this desired system, or some variation of it, may be realized with the minimum expenditure of private and public funds, dislocation of existing land uses, and adverse environmental impacts. The following discussion indicates how the various elements and transportation modes of the circulation system may be addressed by the General Plan in order to provide a system which will adequately serve the future land use pattern.

Highways and Streets

The development pattern contained in the Plan can be analyzed according to type and density/intensity of land use to determine its future circulation requirements expressed in terms of a highway and street network and the function to be served by each link in the network. Designation of the network permits the reservation of its future right-of-way so that it is not preempted by other land uses. The function of a network link relates to the volume of traffic to be served and the desired level of service and is determined primarily by the width of the vehicular right-of-way. Functional classification of network links according to future land use pattern enables the establishment of an ultimate right-of-way width and its reservation to serve this future pattern. In addition to right-of-way reservation, establishing the network and its functional classification facilitates the development of an adjacent land use pattern compatible with respect to noise sensitivity, access requirements, and ability to support a public transportation system.

During the planning period, the SCR Planning Area will experience significant growth. Already the existing land use pattern places severe limitations on the future development of the roadway network required to serve this growth. This is especially true in the area east of Redding between Routes 299 and 44. Scattered small parcel residential development in this area dictates either the demolition of existing housing to acquire right-of-way or moving further to the east where existing development is less dense. This area convincingly demonstrates the need for the General Plan to establish a future circulation network designed to accommodate the development pattern, and to faithfully adhere to it.

Rail

The development pattern contained in the Plan and, more specifically, the industrial land uses contained in the pattern will

generate demands for rail service. Since the railroad rights-of-way in Shasta County, including service spurs, are fixed and not likely to be expanded, it is important to ensure that lands now served by rail are reserved for land uses requiring this service and that adequate expansion areas for these land uses are also reserved. The development pattern should also locate land uses sensitive to the noise impacts of rail at sufficient distances away from the right-of-way. Finally, the railroad system should be integrated with other elements of the circulation system, especially highways, to both avoid conflicts (e.g., at-grade crossings) and to mutually support one another.

Air

The future economic development of Shasta County will in part depend on the level of service provided by Redding Airport. The development pattern in the vicinity of the airport should permit the future growth of the airport, both in terms of expansion of its physical land area and the type of equipment used. Noise and safety impacts of future airport expansion are the critical issues. The development pattern should also prevent lands surrounding the airport from being preempted by land uses, such as residential, which do not make optimum use of air service.

Pipe and Transmission Lines

Future hydroelectric power development in Shasta County will cause the need for transmission lines. It is not known at this time to what extent these developments will require new transmission line corridors. Once these requirements are identified, the development pattern can help ensure their reservation.

Relationship of
Circulation System to
Noise, Air Quality,
Energy, Safety, and
Public Finance

As indicated by the above discussion, the circulation system has important implications for noise, air quality, energy consumption, public safety, and the publicly borne costs of road construction and maintenance. These relationships are outlined below.

Noise

Certain land uses, such as residences, schools, and hospitals are more sensitive to noise generated by the circulation system than are other land uses. The circulation system, both as it exists now and as it will exist in the future, can be analyzed and its noise impacts measured. As suggested above, this permits the location of future development to avoid or mitigate these impacts.

Air Quality

The circulation system is used by vehicles which consume fossil fuels and thereby generate emissions degrading air quality. Air quality degradations caused by these emissions have both safety and aesthetic impacts. These aesthetic impacts relate primarily to visibility and the ability to enjoy views of the surrounding natural environment.

It was noted above that the SCR Planning Area contains a major multi-modal transportation corridor. This planning area also defines the northern portion of the Sacramento Valley Air Basin. Automobile emissions are the primary cause of air quality degradation

within the SCR Planning Area. Some portion of the total auto emissions are associated with traffic passing through the County, but most are caused by auto trips either originating, terminating or occurring within the County.

Another important contributor to air quality degradation in the SCR Planning Area relates to suspended particulates generated by unpaved roads. Unpaved roads are major sources of particulate matter in Shasta County. The Shasta County Air Pollution Control District estimated that in 1976 about 42% of the inventoried particulate emissions came from unpaved roads. Because most industrial sources are controlled, population growth is estimated to increase this percentage to 45% by 1995.¹ This is the largest single source category, far exceeding all industrial sources in the County.

The effect of unpaved road dust (and all particulates) is to raise the measured levels of total suspended particulates and reduce visibility. As population increases, the construction of new, unpaved access roads can be expected to result in higher unpaved road emissions in the future. Each additional vehicle mile driven on unpaved roads can be expected to generate about 4.2 pounds of suspended particulates.² No estimates of miles of non-paved roads in the SCR Area are available. Using information compiled by the Shasta County House Numbering Project, 1,253 individually named private roads serving residences were counted in the SCR Planning Area. Depending on what assumptions are made regarding the percentage of these roads which are unpaved, average road length, and vehicle miles travelled (VMT) on unpaved roads in the SCR Area, the air quality impacts of unpaved roads will vary considerably.

The following control methods are available to reduce unpaved road air quality impacts.

<u>Control Method</u>	<u>Efficiency</u>
Paving	85%
Chemical Treatment	50%
Speed Controls	
30 mph	25%
20 mph	65%
15 mph	85%

Paving is the most effective, but most expensive option. Chemical treatment is probably not feasible due to the need for frequent application and possible water quality effects. Speed controls are effective, but enforcement is expensive.

Energy Consumption

It has been noted that the circulation system in Shasta County is dominated by the privately owned automobile. It is still relatively

¹Shasta County Air Pollution Control District, Shasta County Non-attainment Area Plan, 1979.

²Ibid.

inexpensive to rely on private automobiles, so there is little incentive to explore alternatives. However, if gasoline prices continue to increase at the rate they have increased for the past eight years,¹ the cost of gasoline will consume an increasingly large share of a household's budget. Assuming an annual increase in gasoline costs at 12 percent per year excluding inflation, a gallon of gasoline in 1990 will cost \$3.85 in March 1981 dollars and over \$7.00 in 1990 (inflated) dollars. If Shasta County residents continue to drive as much as they did in 1980, the average household will be spending over \$4,000 per year on gasoline (in constant March 1981 dollars) compared with \$2,000 in 1981.² In 1990 dollars, the cost would be \$7,500. Within 10 to 20 years, as the proportion of household income spent on gasoline increases, the need for alternatives to an auto-dependent circulation system will emerge. The development pattern existing at that future time will determine whether or not these alternatives are economically feasible.

The major alternative to the use of the automobile is the development of a public transportation system serving the SCR Planning Area. This system would use buses sharing the vehicular right-of-way with other autos and trucks. The key to developing this type of transit system is a supporting land use or development pattern. A pattern which facilitates transit has the following characteristics. One, it locates residential development within a reasonable walking distance of a transit route at densities sufficient to generate a level of ridership which in turn will support transit service at frequent enough headways so that it offers a viable alternative to the service provided by the automobile. Two, it connects land uses, such as retail districts, labor intensive industries, educational centers, and medical facilities, which generate high traffic volumes and transportation system modal breaks (where a system ends, e.g., Redding Airport). It is not desirable to precisely define the width of this transit corridor, but it should extend back approximately 1000 feet on both sides of the designated street or highway segment. Residential development within the transit service corridor should be at an average density which is at least seven dwelling units per gross acre. The major destination points designated along the transit corridor should be the preferred locations for new land uses which will generate high traffic volumes. The design and site planning of new residential uses within the transit corridor and of new land uses within and adjacent to destination points should make reasonable provisions for future transit vehicle access.

The existing development pattern in SCR does not have the above characteristics and if current development trends continue, it will not be achieved. The result will be that any transit system that

¹25 percent per year from 1973 to 1978 and 20 percent per year from 1978 to 1981, including inflation, or 17 percent and 12 percent per year excluding inflation.

²Assuming 24,000 miles per year per household (12,000 miles per vehicle).

is developed will require a substantial public subsidy to support its operations.

If an economically feasible transit system is to be a realistic future option in the SCR Planning Area, action must be taken now to guide development in a transit facilitating pattern as described above. Figure C-1 shows such a development pattern and Figure C-2 illustrates a typical section along the transit corridor.

Public Safety

The circulation system has implications for public safety in three important areas. One, the system provides emergency vehicles with access to residences and businesses. Two, the system provides escape routes in the event of personal emergencies and areawide disasters. Last and most importantly, the design and use of the system by vehicle operators has major safety implications for all persons travelling within it. A system which is poorly designed in terms of network routes, road surfaces, and signals and which is improperly used will not adequately provide for public safety.

Public Finance¹

In 1981 there were 1,251 miles of roads within the County maintained system. The total 1981 budget for road maintenance was \$4.6 million, which included snow removal, patching, drainage, cleaning and storm repairs, plus minor and major improvements such as road resurfacing and alignment improvements. Construction of new roads was not included in the 1981 budget. All of this \$4.6 million cost is covered by state and federal subsidies with state funds contributing 88% and federal funds 12%.

These subsidies are generally not based on the total mileage in the system and in recent years the amount of federal and state subsidies has been declining both in current and constant dollar terms. The total County road maintenance budget in 1977 was \$5.3 million, which included a very small amount of County funds, to maintain 1,228 miles of road. By 1981, the maintenance budget had shrunk to \$4.6 million. Adjusting this figure for inflation, the 1981 maintenance budget was \$2.9 million in 1977 dollars. In constant dollars and average cost per mile terms, in 1977 the County was able to spend \$4,316 per mile to maintain its roads, while in 1981, it was able to spend only \$2,318 per mile.

It is County policy to accept maintenance responsibility for new roads constructed by developers to serve their projects, provided the roads meet County standards. County acceptance of new roads means that either the average amount spent per mile to maintain roads must decrease, or additional subsidies must be obtained to offset increased maintenance cost. As noted above, the amount of state and federal subsidies available to the County has been declining both in current and constant dollars. Therefore, in the future the County will have less money available to maintain both its existing road system plus any new roads which are added to it. The

¹The following discussion is based on material provided by the Shasta County Department of Public Works.

National Recreation Area Boundary

Major Trip Generation/Attraction Points:

- 1 Central Valley Commercial Area
- 2 Mt. Lakes Industrial Park
- 3 Shasta College
- 4 Mt. Shasta Mall
- 5 Redding Commercial Area
- 6 Redding Airport
- 7 Route 273 Industrial Area
- 8 Anderson Commercial Area
- 9 Cottonwood Commercial Area

- Major Potential Transit Routes
- Transit Supporting Land Use Pattern

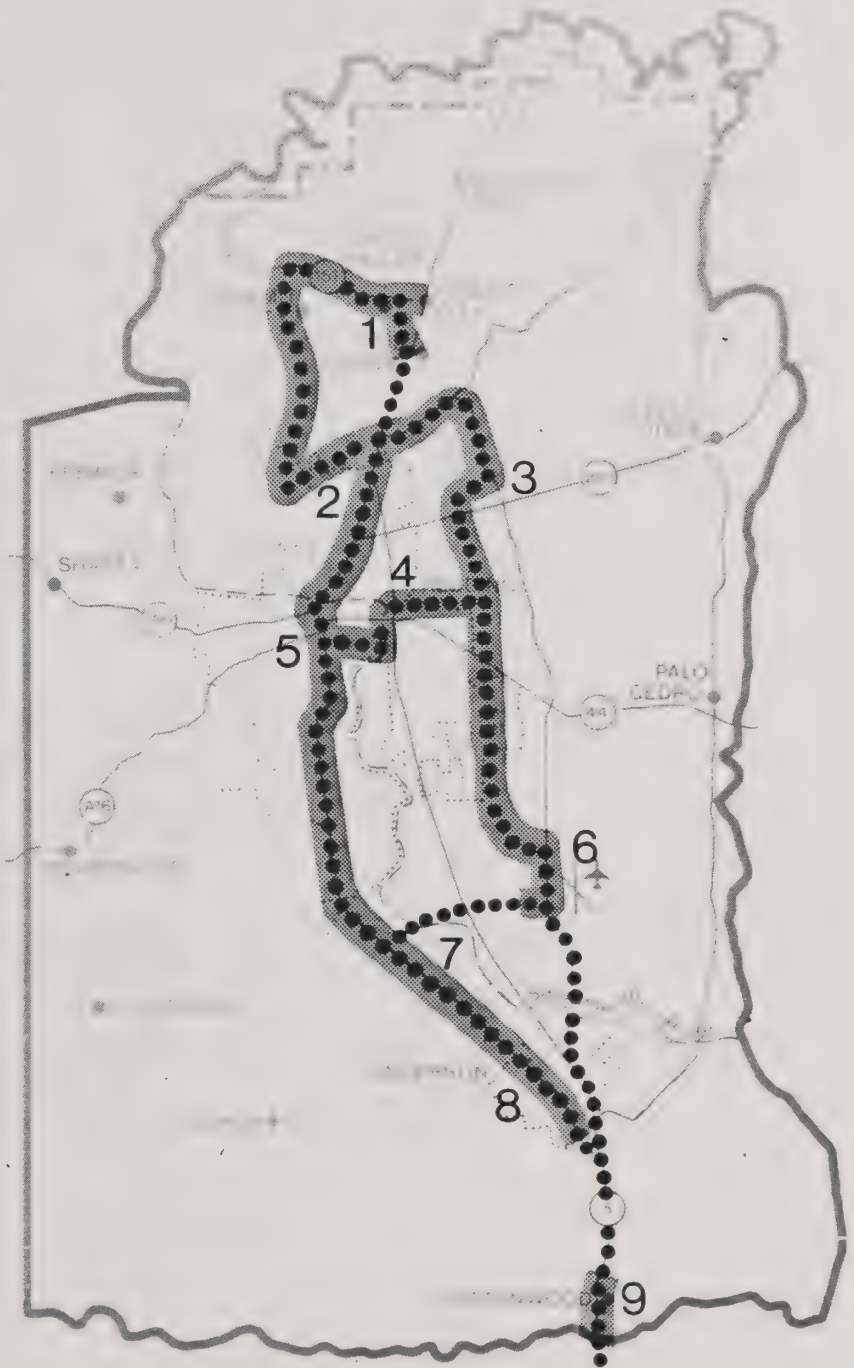
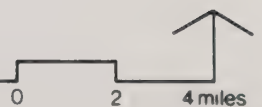


FIGURE C-1
Major Transit Corridor Policy

South Central Region

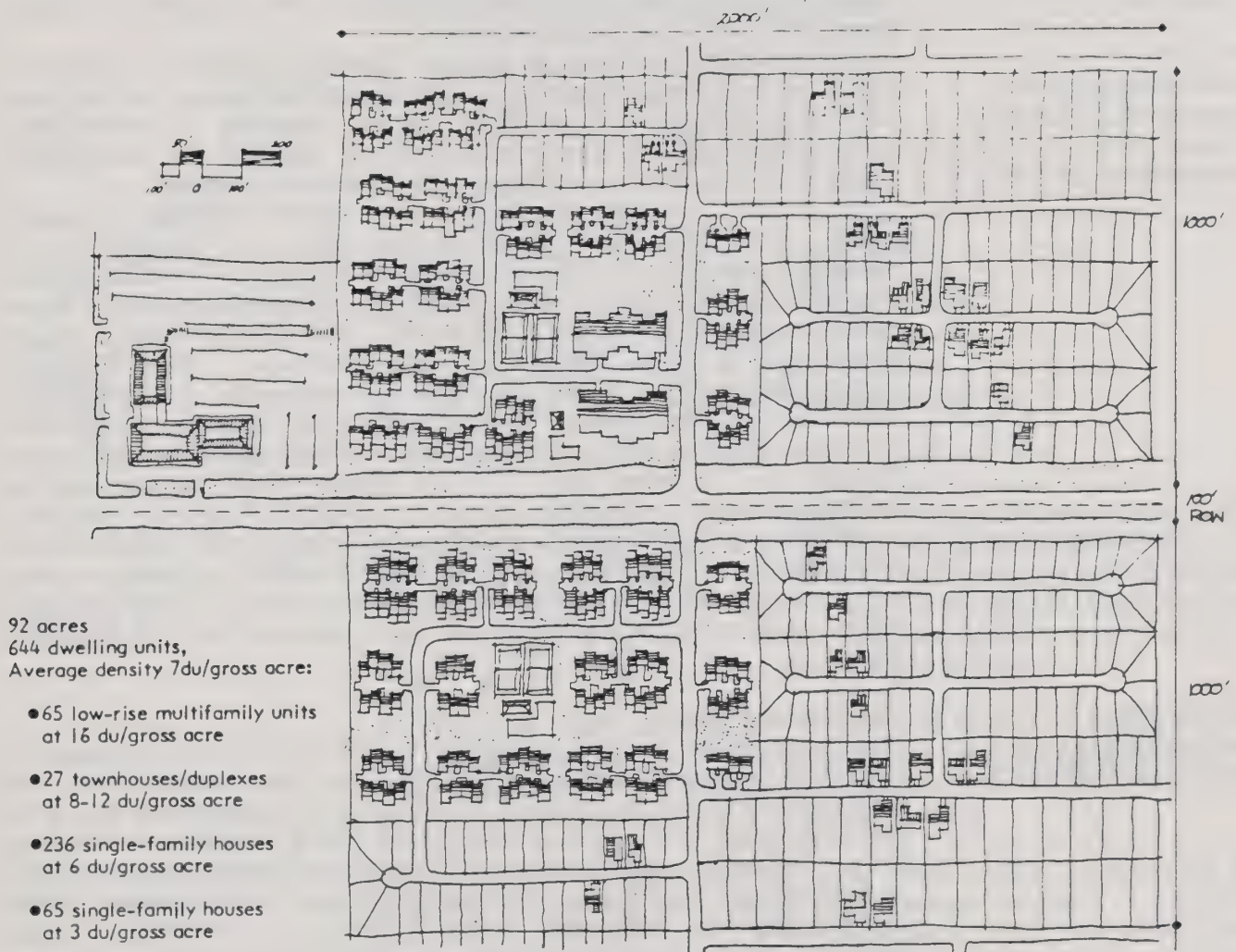
General Plan Revision Program: SHASTA COUNTY, CALIFORNIA

SEDWAY/COOKE Urban and Environmental Planners and Designers



BLACK

FIGURE C-2
Typical Public Transit Corridor (plan view)



Need for Inter-jurisdictional Coordination of Circulation Systems and Development Patterns

major planning implication here is that public finance considerations support locating new development where it can be served by roads currently within the County's system.

The circulation system of Shasta County serves the cities of Anderson and Redding as well as unincorporated areas, and the need for interjurisdictional circulation system planning is self-evident. As demonstrated by the above analysis, implicit in coordinated circulation planning is coordinated development planning.

A forum for interjurisdictional circulation planning presently exists in the Regional Transportation Plan for Shasta County, initially adopted by the Shasta County Metropolitan Planning Organization (formerly the Local Transportation Commission) in 1975 and reviewed by the MPO every two years. The MPO comprises representatives of the two cities and County. The Regional Transportation Plan must consider and incorporate, as appropriate, the transportation plans of cities, counties, and other local agencies.

Presently, the cities of Anderson and Redding, along with Shasta County, are revising their General Plans. This concurrence of revision efforts presents the ideal opportunity, if not the only real possibility, for developing a coordinated, interjurisdictional circulation and land use pattern. As a practical matter, agreement must exist with respect to development pattern prior to any realistic effort to develop an overall circulation system in the SCR Planning Area.

Circulation Implications of Development Pattern

Highway and Roads

The development or land use pattern described in the Community Organization and Development Element of the General Plan has major implications for the highway and road networks in the SCR Planning Area, and to a lesser extent the North East Shasta Planning Area. Of equal importance in SCR are the circulation implications of land use or development decisions reflected in the General Plans of Redding and Anderson, both of which are currently being revised. In the case of Redding, its General Plan will address a 102.5 square mile planning area containing unincorporated lands.

Given the above status of General Planning in SCR, detailed assessment of the circulation implications of future development in this Planning Area must be predicated on Shasta County, Redding, and Anderson formulating definite and mutually consistent land use or development patterns. This effort should be given high priority and should occur within the framework of coordinated, interjurisdictional planning, as described in the Community Organization and Development Element.

Until the results of this effort are available, the Circulation Element will establish the overall network within SCR, reserving decisions addressing the specific details of the various links in this network which will be affected by interjurisdictional planning. The following discussion presents the results of analysis of those lines in the network which can be examined at this time to determine the implications of future development as described in the Community Organization and Development Element.

The analysis of the traffic implications of growth within SCR and North East Shasta examined the major corridors leading from the unincorporated areas into the incorporated urbanized areas. Traffic

generated by growth in the outlying areas was calculated and assigned to these corridors. The specific corridors examined were:

- Route 299 west of Burney,
- Route 299, west of Bella Vista,
- Route 44 west of Palo Cedro,
- Placer Road immediately to the west of 273,
- Clear Creek Road west of Route 273
- Canyon Road immediately to the west of 273,
- Olinda Road immediately west of 273,
- Lake Boulevard immediately west of 273,
- Route 151 immediately west of Interstate 5,
- Oasis Road west of Interstate 5
- Quartz Hill Road west of Route 273, and
- Old Oregon Trail between Oasis and Route 44.

The results of this analysis are reported below:

ROUTE 299 WEST OF BURNEY. This location was selected to analyze the traffic impacts of the growth of Burney/Johnson Park, Fall River Mills/Mcarthur, Cassel and Hat Creek on the link between the SCR and North East Shasta Planning Areas. It was concluded that the existing capacity of Route 299 will be able to accommodate the traffic resulting from this increase in growth.

ROUTE 299 WEST OF BELLA VISTA. This section of Route 299 will be affected by growth in the North East Shasta Planning Area and in Bella Vista. The existing capacity of Route 299 is adequate to accommodate the resulting increase in traffic.

ROUTE 44 WEST OF PALO CEDRO. This section of Route 44 will experience an increase in traffic volumes as a result of growth in Palo Cedro and the Eastern Upland Planning Area. The width of this road is four lanes until a point approximately 1/2 mile to the east of Airport Road, where it reduces to 2 lanes and continues east. Toward the end of the planning period, this 2 lane segment of Route 44 could begin to experience heavy traffic during peak conditions, requiring additional lanes.

PLACER ROAD WEST OF 273. This corridor will experience traffic increases due to the growth of Centerville and the west side of Redding. As a result of this growth, Placer Street west of Buena Ventura Road will approach its capacity as a two lane road, and the link from this point to Almond Avenue will require 4 lanes.

CLEAR CREEK WEST OF ROUTE 273. This corridor will be affected by the growth of Centerville. Traffic analysis of this growth assumed the improvement and realignment of Texas Spring and Honeybee Roads. Analysis indicates that the capacity of this road is adequate to accommodate this growth.

CANYON ROAD WEST OF 273. This corridor will experience traffic increases as a result of growth in the Happy Valley Area. Canyon Road will be able to accommodate this growth at its present

two lanes provided it is upgraded, particularly its curves, to improve its capacity.

OLINDA ROAD WEST OF 273. This corridor will be able to accommodate the traffic generated by the growth of Happy Valley.

LAKE BOULEVARD WEST OF 273. This corridor will experience major traffic increases as a result of growth in the Central Valley Area. Lake Boulevard will require major improvement and expansion to six lanes is recommended.

ROUTE 151 WEST OF I-5. Analysis of this corridor assumes the construction of two new road connections north and south of the Route 151/I-5 Interchange. The north connection is Black Canyon Road between Central Valley and the Old Oregon Trail - I-5 Interchange, and the south connection is Pine Grove between Ashby Road and I-5. With the improvements, Route 151 will require 4 lanes. The widening of Route 151 should only be undertaken as part of a specific planning study of this corridor which examines it from Lake Boulevard to Interstate 5. This corridor study should comprehensively examine roadway improvements, redevelopment of the adjacent commercial areas, physical design of the corridor, and transit links between Central Valley and Redding.

OASIS ROAD WEST OF INTERSTATE 5. The existing capacity of this corridor will be adequate at 2 lanes unless traffic generated by the future development of Mountain Lakes Industrial Park adds substantially to existing volumes.

QUARTZ HILL ROAD WEST OF ROUTE 273. The linkage between Quartz Hill Road and Route 273 will require improvement to accommodate growth in the Quartz Hill area. A 2 lane roadway should be adequate.

OLD OREGON TRAIL BETWEEN OASIS AND ROUTE 44. This corridor will experience significant increases in traffic due to the growth in the areas designated by the Plan as Stillwater and Upper Churn Creek. A six lane highway will be required to accommodate this growth.

Railroads

The General Plan development pattern assumes a year 2000 population of 200,000 persons. Realization of this population growth will require substantial expansion of the County's employment base. There are two major implications of this economic expansion with respect to rail service. One, the freight service operated by Southern Pacific Railroad will likely increase in importance and its accessibility to the Mountain Lakes Industrial Park north of Redding and industrial areas south of Redding should be assured. Two, development of the McCloud River Railroad Industrial Park in Burney will require the rehabilitation of this railroad. A contract for this project has been executed and work is currently underway.

Air

The economic development of Shasta County will be strongly influenced by development in the vicinity of Redding Municipal Airport. Recognizing the increase for careful planning for its future development, the airport and its environs are the subject of a specific planning study jointly sponsored by Shasta County and the cities of Anderson and Redding. It is anticipated that this Plan will be adopted by all jurisdictions.

The circulation implications of the Redding Airport Specific Plan will relate to appropriate uses of lands adjacent to the airport and to the highway and road network required by these uses. Regarding the latter, Airport Road and the linkage of the airport with Interstate 5 via Knighton Road will be the major circulation implications.

Road Standards Implications of Development Pattern

As noted above, the development or land use pattern of an area, specifically the types of uses and the density/intensity of development, will determine its circulation requirements with respect to the network of highways and roads and the functions served by the links in the network. Function relates to the width of vehicular right-of-way, as well as to the standard to which this right-of-way is developed. The functional distinctions among roads are reflected in their varying standards for these key items:

- Type of vehicular surface, paved or nonpaved,
- Width of vehicular surface,
- Drainage improvements, and
- Pedestrian improvements.

Under the existing County road standards, the particular standards applicable in any situation relate less to the present and future function of the road than to other factors. The relevancy of some of these factors to the issue of functionally appropriate road standards is open to question. These factors are discussed below.

The existing system makes a basic distinction between applicable road standards based on the land division process. Under California law, subdivisions creating five or more parcels require a tentative and final map, and all other subdivisions require a parcel map (Government Code Sections 66426 and 66428). Subdivisions requiring only parcel maps are subject to one set of standards, while another set of standards applies to subdivisions requiring tentative and final maps. Parcel map road standards are less stringent than the other set of standards, hereinafter referred to as final map standards. The basic assumption of this approach is that the number of parcels created is relevant to the function which will be performed by the road serving these parcels. This assumption is not without merit, but it ignores the fact that parcels may be further subdivided, thereby changing the function of their roads, and that the number of parcels may or may not reflect their type and density/intensity of land use. Shasta County's parcel map standards attempt to compensate for these defects by relating standards to the "minimum lot size to be created" and to the "total number of parcels to be served by the subject road." However, these factors do not always accurately reflect the key factors determining the function of a road; that is,

the type of land use, the density/intensity of development, the reality that use and density/intensity will change with time, and the relationship of a road to the overall land use pattern.

Final map standards do a much better job in determining the function of a road and its appropriate standards because they address the factors just noted. This is accomplished in part by establishing a functional hierarchy of roads as follows: major street, minor collector street, local street, local minor street.

With respect to a particular subdivision, the final map standards determine the applicable functional category by reference to the General Plan.

Final map standards also distinguish between density of residential land uses according to the following categories - urban, residential (suburban), rural, rural large lot. Within each category, different road standards are prescribed for the different residential densities. However, the density of land use is not exclusively determined by reference to the General Plan, but other factors, some questionable, are used. These questionable factors include elevation, distance to County road or state highway, type of access road, slope, vegetation, and distance to nearest school. Also, the application of standards based on street category and density of residential use may be avoided entirely by the construction of a privately maintained road.

In order for Shasta County road standards to adequately respond to the circulation implications of the development pattern, the following changes are necessary. One, a single set of road standards should uniformly apply to all subdivisions, regardless of the number of parcels to be created. Two, road standards should reflect functional road classifications and density/intensity of land use as determined by the General Plan development pattern. Three, privately maintained roads should meet the same standards as publicly maintained roads and the County should adopt a mechanism for enforcing private maintenance. Road standards as described above are shown in Figure C-3. References used in the preparation of these standards include:

- National Association of Home Builders, Cost-Effective Site Planning,
- Urban Land Institute, Residential Development Handbook, and
- Urban Land Institute, American Society of Civil Engineers, National Association of Homebuilders, Residential Streets.

OBJECTIVES

- C-1 Existing road capacity available within the County road system shall be used to serve future development prior to constructing new County maintained roads, unless construction of a new road will direct development into areas better suited for development than areas presently served by roads, and the existing road capacity shall be enhanced through operational improvements.
- C-2 Development of a land use pattern which directs the expenditure of public and private resources for road construction

and maintenance to an appropriate level consistent with public safety, adequate circulation, and efficient use of land resources.

- C-3 Recognition of the private automobile as currently the primary means of personal transportation in Shasta County, combined with development of a land use pattern which mitigates the adverse quality, and energy consumption impacts of the automobile.
- C-4 Development of a land use pattern that will facilitate the future shift to a circulation system which is not primarily dependent on the private automobile.
- C-5 Provision for pedestrian and bicycle circulation as functional alternatives to the automobile in urban areas and provision of hiking/jogging, bicycling, and equestrian recreational trails for recreation purposes in both urban and non-urban areas.
- C-6 Formulation and adoption of circulation design and improvement standards that:
 - Uniformly apply on a Countywide basis according to development type (e.g. urban, rural) rather than according to location within or outside incorporated areas;
 - Respond to public safety and health considerations, especially vehicle and pedestrian safety, emergency access, evacuation routes, and the existing noise environments of communities;
 - address all modes of transportation; and
 - will not result in substantial deterioration of air quality.

POLICIES

- C-a Shasta County and the cities of Anderson and Redding shall jointly coordinate planning within the urban/suburban areas of SCR in order to develop a consistent land use pattern and a circulation system adequate to meet its short and long-term needs. The Shasta County Local Transportation Commission shall be used as the principal agency for interjurisdictional circulation planning. The resulting circulation system shall be reflected in the general plans of each jurisdiction and in the Regional Transportation Plan for Shasta County.
- C-b In order to adequately plan for its future circulation network regarding highways, roads, and streets, the General Plan shall use the following functional hierarchy and related policies in its circulation planning:
 - Highway: Provides regional, state-wide and national transportation connections and includes Interstate 5 and all other state highways. Access from highways to adjacent properties shall be limited for safety and traffic efficiency. Highways shall be shown on plan maps using the following symbols:

FIGURE C-3 Street Standards

FIGURE C-3 STREET STANDARDS		APPLICATIONS						
STREET TYPES		REQUIRED SECTIONS		Rural Residential B	Rural Residential A	Suburban Average Lot Size Greater Than 1 Acre	Suburban Average Lot Size Less Than 1 Acre	Urban
Arterial. Provides connections between links in the highway network and connects major destinations with the highway network. Major community facilities such as community and regional serving retail centers, industrial parks, office and business parks, and major educational facilities should be located in close proximity to arterials. Access from arterials to adjoining properties should be limited for safety and traffic efficiency. Curbside parking should be prohibited where feasible. Average daily traffic (ADT) on an arterial can range from 3,000 ADT in rural areas to 30,000 ADT in urban areas. For the purpose of Section 66484 of the Subdivision Map Act, an arterial shall be considered a major thoroughfare. Arterials shall be shown on General Plan maps using the following symbols: Existing Proposed								
Major Collector. Accommodates traffic between arterial streets and/or activity centers. Within residential areas traffic is funneled onto major collectors and thence to connecting arterials. Small scale retail or commercial establishments may have direct access to major collectors, but in general direct access to individual residential lots should be avoided to improve traffic safety and traffic efficiency. The roadway should be limited to four traffic lanes and curbside parking prohibited where feasible. Average daily traffic can range from 600 ADT in rural areas to 20,000 ADT in dense urban areas. For the purpose of Section 66484 of the Subdivision Map Act, a major collector shall be considered a major thoroughfare. Major collectors shall be shown on General Plan maps using the following symbols: Existing Proposed								
LEGEND Applicable street standard to be determined based on projected traffic from other areas served by arterial or collector. The higher standard should apply if traffic projected within 5 years exceeds approximately 500 vehicles per lane during the peak travel hour. Required								

STREET TYPES

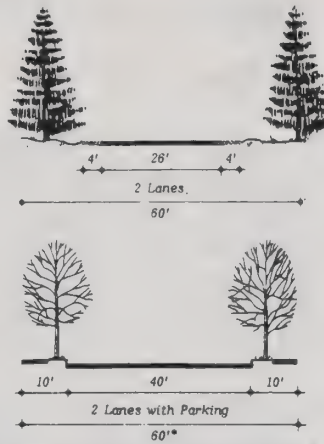
REQUIRED SECTIONS

APPLICATIONS

Subcollector. Provides connection between local streets and major collector or arterial streets. Subcollectors generally serve 100 or less housing units with average daily traffic ranging from 400 to 1,000 ADT. Direct access from adjoining parcels is permitted. Curbside parking is also permitted, but should be discouraged in planned developments for reasons of safety, aesthetics, and energy conservation. Given their level of service, subcollectors are shown on General Plan maps only when necessary to show accessibility to a major property using the following symbols:

—S— Existing

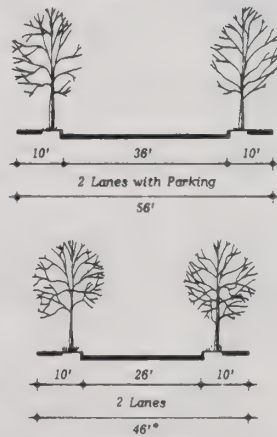
---S--- Proposed



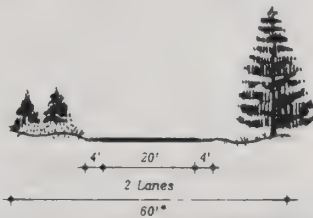
*May be reduced to 26' and 46' respectively if curbside parking is prohibited and neighborhood road layout limits travel distance between a dwelling and collector road to 1000' or less.

Major Local Street. Provides access from approximately 80 or less housing units to a subcollector, major collector or arterial. Minor local streets may funnel into a major local street. Major local streets provide direct access to individual adjoining properties. Average daily traffic ranges from 75 to 500 ADT. In planned developments, prohibition of curbside parking may be encouraged to improve appearance, promote energy conservation, and allow more efficient land utilization.

OR

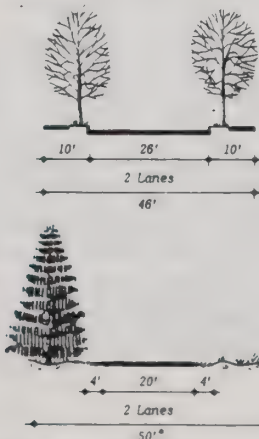


*Permissible in planned development if curbside parking is prohibited and provided off road.



*Gravel surface may be permitted when the projected number of units using roadway is less than 20.

Minor Local Street. Provides access from three to approximately 40 housing units to other streets in the roadway network. The number of units served depends on the road length and type of housing unit. Minor local streets are short streets which usually dead end in a cul-de-sac or court. Maximum length of a minor local street should not exceed 1,000 feet if there is a single means of egress.



*Gravel surface may be permitted when the projected number of units using roadway is less than 20.

Rural Residential 1/4
Rural Residential A
Suburban Average Lot Size Greater than 1 Acre
Suburban Average Lot Size Less than 1 Acre
Urban

• • •

• •

• •

• •

• • •

• • •

• • •

 Existing

 Proposed

● **Arterial:** Provides connections between links in the highway network and connects major destinations with the highway network. Major community facilities such as community and regional serving retail centers, industrial parks, office and business parks, and major educational facilities should be located in close proximity to arterials. Access from arterials to adjoining properties should be limited for safety and traffic efficiency. Curbside parking should be prohibited where feasible. Average daily traffic (ADT) on an arterial can range from 3,000 ADT in rural areas to 36,000 ADT in urban areas. For the purpose of Section 66484 of the Subdivision Map Act, an arterial shall be considered a major thoroughfare. Arterials shall be shown on Plan maps using the following symbols:

 Existing

 Proposed

● **Major Collector:** Accommodates traffic between arterial streets and/or activity centers. Within residential areas traffic is funneled onto major collectors and thence to connecting arterials. Small scale retail or commercial establishments may have direct access to major collectors, but in general direct access to individual residential lots should be avoided to improve traffic safety and traffic efficiency. The roadway should be limited to four traffic lanes and curbside parking prohibited where feasible. Average daily traffic can range from 600 ADT in rural areas to 20,000 ADT in dense urban areas. For the purpose of Section 66484 of the Subdivision Map Act, a major collector shall be considered a major thoroughfare. Major collectors shall be shown on Plan maps using the following symbols:

 Existing

 Proposed

● **Subcollector:** Provides connection between local streets and major collector or arterial streets. Subcollectors generally serve 100 or less housing units with average daily traffic ranging from 400 to 1,000. Direct access from adjoining parcels is permitted. Curbside parking is also permitted, but should be discouraged in planned developments for reason of safety, aesthetics, and energy conservation. Given their level of service, subcollectors are shown on Plan maps only when necessary to show accessibility to a major property using the following symbols:

■S■ Existing

■-S- Proposed

- Major Local Street: Provides access from approximately 80 or less housing units to a subcollector, major collector or arterial. Minor local streets may funnel into a major local street. Major local streets provide direct access to individual adjoining properties. Average daily traffic ranges from 75 to 500. In planned developments, prohibition of curbside parking may be encouraged to improve appearance, promote energy conservation, and allow more efficient land utilization .

- Minor Local Street - Provides access from three to approximately 40 housing units to other streets in the roadway network. The number of units served depends on the road length and type of housing unit. Minor local streets are short streets which usually dead end in a cul-de-sac or court. Maximum length of a minor local street should not exceed 1,000 feet if there is a single means of egress.

The classification of the circulation network according to this hierarchy shall be shown in the General Plan and used as the basis for right-of-way reservations. All subdivisions and major development proposals shall be evaluated as to their conformance with this circulation network.

Shasta County shall adopt a single set of road standards uniformly applicable to all subdivisions of land as shown in Figure C-3. Privately maintained roads shall be subject to these standards. Figure C-3 shows right-of-way (ROW) by street type and General Plan land use classifications of urban, suburban, rural residential A and rural residential B. These standards shall apply to residential, commercial, and industrial land uses. Travel lanes shown are maximum number of lanes to be accommodated. The number of lanes for arterials and collectors may be reduced if current traffic projections do not justify the full number of lanes.

- C-c The highway and road improvements described in the findings of this element shall be provided as required by the development pattern.
- C-d Existing accessibility to rail service in the SCR and North East Shasta Planning Areas shall be protected by the development pattern from preemption by incompatible land uses and land uses not requiring rail service. Opportunities for increasing accessibility to rail service shall be preserved by the development pattern. Shasta County shall support the rehabilitation of the McCloud River Railroad in order to facilitate development of the industrial park.
- C-e Shasta County shall adopt the Redding Airport Specific Plan as mutually agreed to by the County and the cities of Anderson and Redding.

- C-f Shasta County, in conjunction with the cities of Anderson and Redding, shall conform to the Major Transit Corridor Policy Map shown in Figure C-1.
- C-g Residential developments at urban densities shall incorporate functional internal circulation networks for pedestrians and bicyclists. These internal networks shall be connected to the external circulation system and shall, to the extent feasible, link residential areas to service centers.
- C-h Sidewalks shall be required along both sides of all roadways within new development located in areas designated by the General Plan maps as urban. Sidewalks shall be required along one side of all roadways within new development located in areas designated by the General Plan maps as suburban if the average lot size of the new development at ultimate buildout is less than 30,000 square feet. Sidewalks shall include a minimum 3' planting strip and a minimum 3' paved surface.
- C-i Circulation improvements required for new development in the SCR Planning Area shall provide for integration with the trails systems shown in the Open Space and Recreation Element.
- C-j Circulation improvements required for new development shall provide for emergency access by police, fire, and medical vehicles, and shall provide for escape by residents/occupants of the development, including alternative automobile escape routes.
- C-k The circulation system shall be designed with consideration given to its noise impacts on adjacent development.
- C-l Shasta County shall encourage and support sincere efforts by County residents to form assessment districts and other mechanisms for replacing unpaved roads with paved roads.
- C-m As provided by the Air and Air Quality Element, all future privately maintained roads constructed in the SCR planning area shall be paved.

IMPLEMENTATION

Policy C-a will require continuation and enhancement of coordinated land use planning among the County and Anderson and Redding and continued emphasis on the Local Transportation Commission as the coordinating agency for circulation planning.

Implementation of policies C-b, C-c, and C-e is self-explanatory.

Policies C-d and C-g are implemented by the Community Development Pattern and Organization Element.

Policies C-f, C-h, C-i, C-j and C-m will require revision of the County Subdivision Improvement Standards.

Policies C-k and C-l are general guides for action and do not require specific implementation.

WATER SUPPLY, WASTEWATER TREATMENT, AND SOLID WASTE DISPOSAL

INTRODUCTION

The subjects addressed by this element encompass both mandatory and optional elements. Section 65302(d) of the Government Code requires the preparation of an element for the conservation, development, and utilization of natural resources including water. This element must be developed in coordination with the Countywide water agency and with all district and city agencies which have developed, served, controlled, or conserved water for any purpose. Under authority of Section 65303(e), a local government may prepare an element showing a general plan for sewerage disposal. Finally, Section 65302(a) requires the designation of lands used for solid waste disposal facilities.

These three subject areas are grouped together in one element because they relate to the provision of basic services required by all types and densities of development. They have very direct relationships to other plan elements, most importantly the Water Quality element in the Public Safety Group, and the Water and Water Quality Element of the Resources Group.

FINDINGS

Nature of the Water Supply/Wastewater Treatment Problem

Water supply and wastewater treatment is concerned with the removal of water from its natural environment and its return to this environment after it has been used by man for a variety of purposes. The apparent simplicity of this mechanism is offset by the complexity of the natural resource base, particularly in two areas. Documentation of the ability of surface waters to supply water and to dispose of wastewater is a relatively straightforward process. Much greater difficulty is posed in attempting to document groundwater supply resources and the ability of soils to receive and treat wastewater. Since the surface water resources of Shasta County are geographically limited, the latter questions are very significant to the future development pattern, yet they are the most difficult to answer.

Appendix D contains a comprehensive examination of the water and wastewater resources of Shasta County and their implications for future development. This Appendix is based on the latest published literature and extensive communications with local authorities in these areas. Understanding the water supply and wastewater treatment opportunities and constraints operating in Shasta County is fundamental to understanding its future development potential. Major findings of this Appendix are outlined below.

Water Supply

There are two sources of water supplies, surface waters and groundwaters, and two general methods of delivering water supplies, community systems and individual or family systems. Each type of delivery system may use either surface or groundwater as its supply source. The ground and surface water resources are not uniformly distributed throughout the County, and in different areas of the County different delivery systems have developed over time.

The California Department of Water Resources has identified two groundwater basins in Shasta County as significant sources of groundwater. One is located in the Sacramento River Valley and is named the Redding Groundwater Basin. The other is located in the Fall River Valley and carries its name.

The majority of the water supply in Shasta County comes from surface flows. In contrast to groundwater, surface waters are subject to a complex state legal system establishing the rights of individuals and other entities to these flows. The primary surface water resources in Shasta County are impounded within the Lake Shasta and Whiskeytown Reservoirs. Rights to these impounded waters are allocated under the jurisdictions of the Central Valley Project (CVP). Table WS-1 shows the allocation of CVP water in Shasta County. Some recipients of this water in turn sell a portion of their allocation to other agencies. Rights to other major surface water resources of the County have been similarly allocated to different individuals and entities. Pacific Gas and Electric is a major controller of water rights, which it uses for power generation purposes.

Careful review of Table WS-1 raises issues with important implication for future development in the SCR planning area. First, the substantial allocation of base supply water of the Anderson-Cottonwood Irrigation District must be noted. Although presently most of its total allocation is used for irrigation, the use of this water for non-agricultural purposes represents a tremendous potential which must always be kept in mind. Second, with the exceptions of three of these contracting entities, the Cities of Anderson and Redding and Shasta County, none of them are responsible for land use planning, yet decisions they make regarding the provision of water service have significant land use implications. Under their enabling authority, these decisions must primarily consider their financial implications for the customers served by the various contracting entities, and secondary consideration is given to their Countywide land use implications. It is not always the case that decisions in the best interests of the customers of the CVP-water contracting entity are in the best interests of Countywide land use planning.

An example of this potential for conflict is illustrated by Bella Vista Water District and Clear Creek Community Service District. Both districts enjoy substantial allocations of CVP waters, but at present they each use roughly half of their allocation. Bella Vista uses 11-12,000 acre feet per year, and Clear Creek uses 6,000 acre feet per year. Beginning in 1982, each district must begin paying for its total allocation, including that which is currently unused, or it will lose the unpaid portion of its allocation. In order for these districts to maintain their full CVP allocations, which represent a significant resource to all residents of Shasta County, they are presented with three options. One, they may increase the rates paid by their customers to cover the cost of the total allocation. Two, they may take steps to encourage development within their service areas so that new customers will assume the cost of the currently unused allocation. Three, they may combine options one and two. The difficulty with option one is that it unfairly places the burden of preserving access to a resource of Countywide importance on a

TABLE WS-1

ALLOCATION OF CVP WATER IN SHASTA COUNTY

<u>Contracting Entity</u>	Water Allocation (AF)		<u>Total</u>
	<u>Base Supply</u> ¹	<u>Project Water</u> ²	
1. Anderson-Cottonwood I.D.	165,000	10,010	175,000
2. Bella Vista W.D.	0	24,000	24,000
3. Clear Creek C.S.D.	0	15,300	15,300
4. Daniell (Private Party)	13	7	20
5. Keswick C.S.D.	0	500	500
6. Mountain Gate C.S.D.	0	350	350
7. City of Redding	17,850	3,150	21,000
8. City of Redding (Buckeye Area)	0	6,140	6,140
9. Riverview Golf Course (Private)	255	25	280
10. Shasta C.S.D.	0	1,000	1,000
11. Shasta Co. Water Agency	0	5,000	5,000
12. Shasta Dam Area P.U.D.	0	3,225 +	3,225
13. Summit City P.U.D. (Now S.D.A.P.U.D.)	0	1,169 +	1,169
14. Tharalson/Michiels (Private Party)	70	135	205
15. U.S. Forest Service (Centimudi Boat Ramp)	0	10	10
Totals	183,188	70,011	253,199

¹ Base supply is a local water right which existed prior to construction of the CVP and which is protected in CVP contracts. There is no charge for this water.

² Project water is water made available as a result of the CVP. This water is purchased from the Bureau of Reclamation.

Source: Shasta County Water Agency

portion of the County's population. Option two is undesirable because it may result in premature development of lands which should be reserved for later development.

The central planning issue raised by the present pattern of allocation of CVP water in the SCR planning area is the need for coordination of land use planning with the supply of water. Currently each contracting entity is legitimately pursuing its own best interests generally without regard for their larger implications. This situation demonstrates the need for one agency with overall responsibility for coordinating water supply planning with land use and related planning with the SCR planning area.

A possible resolution of this issue lies with the Shasta County Water Agency (SCWA), an entity of County government empowered to contract directly with the U.S. Bureau of Reclamation. Under one strategy, the SCWA would enter into a master contract with the Bureau consolidating all CVP allocations in Shasta County. All existing water-providing entities which formerly contracted directly with the Bureau would then enter into contracts for their actual water requirements. These requirements would be reviewed every five years in sequence with the periodic revisions of the General Plan. The basis for reassessing and revising water allocations would be the Shasta County General Plan, which, as discussed under the Community Development Element, would provide the broad framework for and be in consonance with the plans for Anderson and Redding.

Under this strategy, the cost of maintaining unused CVP water allocation would be spread among all entities contracting with the SCWA. This would relieve the financial burden on those districts which soon will be paying for unused allocation in order to keep it within the County. This is a more equitable approach because the benefits of preserving water allocation for future growth in the SCR planning area will be enjoyed by all its residents.

The major advantage of this approach is that land use and water supply planning in the SCR area would be coordinated with resulting cost efficiencies in the provision of water service and other facilities required by growth. Other advantages include enabling Shasta County, through its SCWA contract with the Bureau of Reclamation, to speak with a single, powerful voice in dealing with federal and state officials in water matters. This single, powerful voice would be especially valuable in enabling the County to guarantee the long-term water needs of Shasta County.

Beyond the institutional issues outlined above, the availability of ground and surface water resources and delivery systems have major implications for the density/intensity of land use for development purpose. These implications are expressed in matrix form in Figure WS-1 which relates water supply to the land use categories described in the Community Development Element. The water supply conditions listed in Figure WS-1 are generally mapped in Figure 11 of Appendix D. The major findings expressed by these two figures is that the SCR and Northeast Shasta planning areas present the least constraints on future development with respect to the availability of water, while the other planning areas of the County are constrained in varying degrees. As will be seen below, these findings will be generally mirrored by those pertinent to wastewater treatment.

FIGURE WS-1: POLICY MATRIX FOR LOCATION OF LAND USES RELATIVE TO WATER SUPPLY AND WASTEWATER TREATMENT

WATER SUPPLY	WASTEWATER TREATMENT			
	Within an existing district with either unused capacity or the potential to add capacity.	Within the potential expansion area of an existing sewer district.	Areas located outside an existing sewer district but where there is either potential to develop a new facility using land application of wastewater, potential for discharge to water bodies) or where soils pose only limited constraints to septic tank use.	All other areas.
Within existing district with significant additional unused allocation. ¹	U, S, C, I	U, S, C, I	S, RRA	RRB GR
Expansion area of existing district with significant additional allocation or groundwater source to expand, as identified in California Department of Water Resources (DWR) Bulletin #18, September 1978.	U, S, C, I	U, S, C, I	RRA	RRB GR
Possible surface diversion area or existing district but presently without adequate allocation, or areas with water-bearing alluviums but outside identified groundwater basins, or younger volcanics (i.e., quaternary era) as identified in DWR Bulletin #118, September 1975.	RRA	RRA	RRA	RRB GR
Outside a water district or possible expansion area of a district and areas of non-water bearing materials as identified in DWR Bulletin #118, September 1975.	RRB GR	RRB GR	RRB GR	RRB GR

¹Significant unused allocation is 1,000+ acre feet per year

KEY: U - Urban, S - Suburban, RRA - Rural Residential A
I - Industrial C - Commercial RRB - Rural Residential B
GR - Growth Reserve

Source: Sedway/Cooke

Current understanding of the groundwater resources of Shasta County is not definitive. The State Department of Water Resources currently monitors many wells in Shasta County. The United States Geologic Survey is also conducting a study of the Redding Groundwater Basin, while the Department of Water Resources is studying basins in the northeast region of the County. As its financial resources permit, the County should fund studies designed to improve this understanding. Opportunities to obtain additional state and federal assistance in this area should be aggressively pursued.

One major opportunity which should be utilized is the monitoring of wells in certain areas of the County. As a practical matter, well monitoring should be required in these areas of the County to ensure that new development will not jeopardize existing wells and will be able to meet its own long-term needs. To be useful, well monitoring must be conducted over long periods of time. Data collected when a well is initially drilled is valuable, but it provides no information regarding the well's long-term performance and impact on surrounding wells.

Well monitoring is an extremely controversial subject and is feared by many persons who believe monitoring will lead to regulation or taxation of this resource. As used here, well-monitoring is designed to work in the interest of the individual who is currently operating a well by providing data which will alert County officials when further development in an area should be reduced, halted, or provided with some supplemental water supply system.

Wastewater Treatment

Wastewater may be treated and returned to the natural environment using one of several technical methods with either community or individual/family service systems. The scale of operation and economics of some technical methods requires that they be used within community systems. The various combinations of technical methods and service systems and their use throughout the County is discussed below.

The simplest system is the septic tank and leach field serving a single dwelling. The advantage of this on-site wastewater treatment system is its relatively low cost and its water recharge characteristics. Disadvantages relate to the narrow requirements of this system with respect to soil characteristics, topography, and the absence of seasonal or year-round high groundwater levels. Failure of a septic tank system is its major disadvantage because it will result in contamination of groundwater. Unless this failure is evidenced by odor, visual or mechanical symptoms, it may go undetected indefinitely. With few exceptions these requirements severely limit their use in Shasta County in that it cannot be assumed that every lot in the County of any size will be able to support a septic tank and leach field system. Ironically, those areas of the County with the least constraints on the use of this system are located in the Sacramento Valley area and are served by community sewer systems. Determining septic tank suitability requires site by site investigation, a costly and time consuming process.

The limited opportunities to use conventional septic tank and leach field systems in Shasta County has led to great interest in alternative or nonconventional on-site systems, including mound and aerobic systems.

The main advantage and prime reason that the mound was developed is to provide an alternative for homes on sites unsuited to conventional trenches or beds. The soil absorption mound is particularly appropriate for lots where the water table or rock formations are too close to the ground surface or where soils are too low in permeability for effective percolation of the effluent.

The mound construction is similar to the construction of a seepage bed, except that it is elevated by imported sand fill to a height of several feet above existing soils. The septic tank effluent is normally pumped up into the mound, where it percolates through the sand and down into the native soils.

An aerobic treatment system is an essentially small, simplified version of large centralized wastewater treatment systems that use aeration to speed up bacterial breakdown of the organic material.

Inside the tank are a screen to remove rags and other large solids, an aeration chamber, a settling chamber, and a disinfection unit. A diffuser or mechanical agitator inside the aeration chamber produces a steady flow of oxygen needed for the growth of aerobic bacteria. The bacteria-laden wastewater then moves to the second chamber where solids settle to the bottom.

The main advantage of aerobic units is that they provide a better quality effluent, if properly operated and maintained, than a septic tank does.

The main disadvantages of aerobic devices are that they are more expensive and require more maintenance than the septic tank. The property owner must be willing to maintain a close watch over the system to prevent mechanical or electrical failure and to ensure stable operation.

While alternative on-site wastewater treatment systems may ultimately help overcome the difficulties associated with conventional systems, their suitability for widespread application in Shasta County is unproven. Even if they are found to be viable, their use imposes substantial initial and operational costs. One operational cost of particular concern is electricity, where dramatic cost increases will continue to occur.

The remaining wastewater treatment systems require some form of community collection, treatment, and disposal. The most common form of community system is the treatment plant which discharges treated effluent to a surface water course. Use of this system is limited by the availability of a water course to receive the treated effluent. There are only two available in Shasta County on a year-round basis: the Sacramento River south of the Bella Vista Water District intake near the Route 44 overpass and the section of the Pit River between Fall River Mills and Big Bend.

Other surfacewater courses in Shasta County may be used on a seasonal basis to receive treated wastewater. In dry summer months, the treated wastewater may be stored and a portion of it disposed of by land application. Again, the availability of this type wastewater treatment system is limited. Only Churn Creek is currently used for this purpose, and it is at capacity use. Use of

Clover, Stillwater, and Cow Creeks for wet seasonal discharge of wastewater is not in accordance with the State Regional Water Quality Control Board Basin Plan.

Remaining methods of community wastewater treatment include winter storage and summer land application and the use of evaporation ponds. Use of the former method is limited by topography and soil conditions to the Eastern Forest, Eastern Upland, SCR, Western Upland and North East Shasta planning areas of the County. Use of evaporation ponds is limited by seasonal rainfall to parts of the Western and Eastern Upland, North East Shasta, and SCR planning areas.

As with water resources, the availability of wastewater treatment facilities have major implications for the density/intensity of land use for development purposes. These implications are expressed in matrix form in Figure WS-1, which relates wastewater treatment to the land use categories described in the Community Development Element. The wastewater treatment conditions listed in Figure WS-1 are generally mapped in Figure 22 of Appendix D. The major findings expressed by these two figures are that the SCR and North East Shasta planning areas present the least constraints on future development with respect to wastewater treatment. The other planning areas are constrained by the unavailability of community systems and limitations on the use of on-site systems.

Wastewater treatment in the SCR planning area also raises issues concerning the coordination of land use planning with the provision of service. In SCR, there are three community wastewater systems, the Cities of Anderson and Redding and the Shasta Dam Area Public Utilities District. The Cottonwood Water District has proposed and is currently awaiting approval of funding for a small treatment plant which would serve the immediate Cottonwood area. Presently there are proposals for four separate wastewater treatment systems for the Stillwater and Cow Creek drainage basins. The proposed Old Oregon Trail (TOOT) residential development would use a system of winter storage and summer land application, as would the proposed Indian Springs residential development. A third proposal would serve commercial, industrial and residential development in the Redding Airport area and would use land application or treatment and discharge to the Sacramento River. The fourth proposal would serve commercial and residential development in the Palo Cedro commercial area with a treatment system discharging to the Sacramento River.

Several schemes have been advanced to develop a comprehensive, area-wide wastewater treatment system which would provide additional capacity for the Redding and Shasta Dam PUD Systems, serve the airport and facilitate various development proposals in the Churn Creek and Stillwater Creek Drainage Basins. Significant economies in both private and public funds could be achieved through the phased provisions of wastewater treatment by a coordinated, area-wide system. Such a system could make maximum use of existing unused sewage treatment capacity, expand existing treatment plants and share the cost of constructing new ones, develop a collection system initially sized for its ultimate service capacity and relate the density of development to this capacity, and share system costs among the broad customer base.

This analysis suggests that the Shasta County General Plan, operating in concert with the plans of Anderson, Redding, the Shasta Dam Area PUD, and other interested parties, provide the basis for coordinated, area-wide planning regarding the provision of wastewater treatment. The parameters of this system are defined by the land use plan for SCR shown on the General Plan map and are outlined as follows:

- The system would provide additional capacity for the Shasta Dam PUD,
- The system would provide capacity to serve the unincorporated area north of Redding and south of Shasta Dam PUD,
- The system would serve future urban development in the Stillwater area north of Route 299E and east of Interstate 5, and west of the west fork of Stillwater Creek,
- The system would serve future urban development in the area bound by Route 299E, Stillwater Creek, Route 44 and the city limits of Redding,
- The system would serve development in the Airport Road/Clover Creek area,
- The system would not serve the area located south of Route 299E and east of Stillwater Creek, and
- The system would not serve Churn Creek Bottom.

As stated above, the limits of this area-wide wastewater treatment system are defined by the land use plan for SCR. All decisions regarding the provision of community services, including wastewater treatment, must be consistent with this plan. The provision of services in a manner which is not consistent with this plan will create political and economic pressures to deviate from it, ultimately resulting in the destruction of the Plan. The intent is not to use restrictions on the provision of services to force a particular development pattern. Rather the intent is to use a land use plan to guide the provision of services to a development pattern reflecting community desires and values.

Solid Waste Disposal

As mandated by state law, solid waste disposal is under the purview of the Shasta County Solid Waste Management Plan, approved in 1976 and adopted in 1980. This Plan, which addresses the collection of solid wastes, its disposal in sanitary landfills, and recycling, provides the basis for the County's total solid waste disposal program, including the identification, reservation, and acquisition of sites for solid waste disposal facilities. Because of its major land use implications, the following discussion addresses one aspect of this program. The Solid Waste Management Plan should be directly consulted for its other land use implications.

Shasta County is currently using a sanitary landfill located to the north of the city of Redding and known as the Buckeye Sanitary

Landfill. This site will be closed in late 1981 and replaced by the West Central Landfill located in the Western Upland planning area near the intersection of Clear Creek and Ridge Roads. The storage volume of this site is 17 million cubic yards. Assuming a solid waste generation factor of 5.2 pounds per person per day¹, the population projection used in the Community Development Element, and the factor of 1,000 pounds per cubic yard,² 6.3 million cubic yards of solid waste will be generated during the period 1981-2000 by the entire County population. Therefore, the lifetime of the West Central Landfill would extend significantly beyond the planning period.

OBJECTIVES

Water Supply

WS-1 Location of future development in areas where existing community water systems have unused capacity, where it is cost-effective to expand existing systems to serve development, where service districts providing new systems can be created on a cost-effective basis, and where on-site inspections and field tests have established the long-term, cost-effective feasibility of on-site systems.

WS-2 Development of a Countywide mechanism for managing the water resources of Shasta County so that local community desires regarding water service are respected, Countywide water supply options are shared on a Countywide basis, and adequate supplies and quality of water are available to serve development projected for the planning period.

WS-3 Water conservation in all new development through the use of measures which result in the more efficient use of water.

WS-4 Achievement of an improved understanding of the groundwater resources of Shasta County.

Wastewater Treatment

WT-1 Location of future development in areas where existing community wastewater treatment systems have unused capacity, where it is cost-effective to expand existing systems to serve development, where service districts providing new systems can be created on a cost-effective basis, and where on-site inspections and field tests have established the long-term, cost-effective feasibility of on-site systems.

WT-2 Development of a comprehensive long-term wastewater treatment system within the SCR planning area, coordinated with community development objectives, and designed to provide this service in a manner making the most cost-effective use of public and private financial resources.

¹Final EIR for a Proposed Sanitary Landfill Site, April 1980, Appendix E, page 3.

²Ibid, Appendix D, page 2.

WT-3 Achievement of an improved understanding of the opportunities and constraints governing the use of on-site wastewater treatment systems, both conventional and alternative, in Shasta County.

Solid Waste Disposal

SW-1 Develop the Shasta County solid waste program in accordance with the adopted Solid Waste Management Plan.

SW-2 Provide for septic tank disposal facilities in the vicinity of the Fall River Mills sewer treatment plant.

POLICIES

Water Supply

WS-a Future development in Shasta County shall be located with respect to type and intensity/density of land use as provided in Figure WS-1 in order to ensure the long-term, economically feasible and environmentally sound provision of water of adequate supply and quality to existing and future County residents.

WS-b With the exception of the SCR planning area, new development located outside of a Town or Rural Community Center shall be supplied with water by individual systems. In the SCR area, new development located outside of a Town or Rural Community Center and within the existing boundary of a special district providing water may be supplied with water by this district. New development located within an Urban, Town, or Rural Community Center shall be supplied with water as provided in its respective community plan.

WS-c The Shasta County Water Agency shall take appropriate actions for achieving objective WS-2. The full authority of the County shall be put behind these efforts and every opportunity for interjurisdictional and interagency cooperation in other areas shall be directed to this end.

WS-d Shasta County shall develop guidelines to be used in the design of new residential, commercial, and industrial development in order to achieve objective WS-3. These guidelines shall be made known to all persons engaged in development in Shasta County. Compliance with these guidelines shall be considered in the review of all proposed developments requiring discretionary permits.

WS-e New dwellings located on preexisting legal lots at densities in excess of those prescribed in applicable land use categories, which are served by wells and are located outside the limits of the Redding and Fall River Groundwater Basins shall be required to enter into a well monitoring program designed to ensure their long-term access to water supplies of adequate quality and quantity.

WS-f Shasta County shall request and encourage appropriate state and federal agencies to undertake studies designed to improve the understanding of the County's groundwater resources.

The County shall fully cooperate in such studies and shall financially contribute to them as the County's fiscal resources and obligations permit. As new information is obtained, these policies shall be revised accordingly.

Wastewater Water

- WT-a Future development in Shasta County shall be located with respect to type and intensity/density of land use as provided in Figure WS-1 in order to ensure the long-term, economically feasible and environmentally sound provision of adequate wastewater treatment facilities to existing and future County residents.
- WT-b Shasta County shall take appropriate actions for achieving objective WT-2. The full authority of the County shall be devoted to these efforts and every opportunity for interjurisdictional and interagency cooperation in other areas shall be directed to this end.
- WT-c All new development located outside of an Urban or Town Community Center shall be provided with wastewater treatment services through an individual, on-site treatment system. There shall be two limited exceptions to this policy. One, a community wastewater treatment system may serve all or part of a Rural Community Center if new development within the center is proposed for lands whose physical condition precludes the use of an individual, on-site treatment system, provided that any subdivision of lands served by the community system shall conform to the community plan and the community system shall not be extended to serve lands beyond those described above. The intent of this exception is to avoid penalizing owners of lands within Rural Community Centers who are unable, due to the physical conditions of their lands, to use on-site individual systems for wastewater treatment. It is not the intent of this exception to allow said owners of lands to develop them at densities/intensities of use inconsistent with the character of a Rural Community Center. Two, a community wastewater treatment system may serve development located in the SCR area and outside a Town or Urban Center if the sponsors of said development enter into a binding agreement to become part of the SCR planning area comprehensive wastewater treatment system. All new development located within an Urban, Town, or Rural Community Center shall be developed as provided in its community plan.
- WT-d Shasta County shall document on a Countywide basis septic tank performance in order to collect data on where these systems will or will not work and shall develop programs designed to remedy failed or failing systems. As new information is obtained, policy WT-a shall be accordingly revised.
- WT-e Shasta County shall permit experimentation with "alternative" wastewater treatment technologies on a limited

and carefully controlled basis, including advance provision establishing what public or private entity will be responsible in the event of failure, to determine which systems are feasible and environmentally sound, on a long-term, cost-effective basis.

Solid Waste Disposal

SW-a Shasta County shall take actions required to implement the Solid Waste Management Plan.

SW-b Shasta County should take action required to implement objective SW-2.

IMPLEMENTATION

Policies WS-a and WT-a will be implemented through the General Plan Planning Area Maps and the zoning ordinance.

Policies WS-b and WT-c will be implemented through subdivision map review.

Policy WS-c is a general guideline for the County and a specific directive to the County Water Agency. The intent of this policy is that the Agency, with the support of the Board of Supervisors, be responsible for promoting and developing this Countywide Water Resources Management mechanism.

Implementation of policy WW-d requires the preparation of water conservation guidelines. This will be the responsibility of the County Water Agency.

The well monitoring program prescribed in policy WS-e will also be implemented by the Water Agency.

Policy W-f will be implemented by resolution of the Board of Supervisors and will depend on the resources of the federal and state agencies. The County should establish a priority list of areas of the County requiring study.

Policy WT-b raises the issues of which department of County government should be assigned responsibility for developing a regional wastewater treatment system. The candidates are the Public Works Department, the Planning Department, the County Water Agency, or a newly created agency. It is recommended that it be jointly shared by the County Water Agency and Public Works.

Implementation of policy WT-d will require a major increase in the resources of the Department of Environmental Health. Policy WT-e is currently being implemented by the newly adopted septic tank standards.

Shasta County has recently purchased and is developing the landfill site required to implement policy SW-a.

SCHOOLS, LIBRARIES, AND COMMUNITY RECREATION

INTRODUCTION

This element addresses three public services which play major roles in determining the quality of cultural life available in a community. Its purpose is to assess the implications of the development pattern prescribed in the Community Development Element with respect to the services. Schools are defined to include public elementary and high schools. Libraries are those facilities and services provided by the Shasta County Public Library system. Community recreation is defined to mean areas and facilities

providing active and passive recreation opportunities to local communities within the unincorporated areas of Shasta County. A local community would include a Rural Community Center or the unincorporated area of an urban center. Recreation at the Countywide level is addressed in the Open Space and Recreation Element.

Authority for this element is provided by Government Code Section 65303(a), which provides for recreation elements, and 65303(k), which provides general authority for elements addressing subjects relating to the physical development of a county or city.

FINDINGS

Schools

The population growth projected for Shasta County will in turn result in an increase in the public school population, requiring the construction of new facilities. Presently, several existing school districts have been designated as overcrowded by the Board of Supervisors pursuant to Section 65970 of the Government Code. In the 1981 fiscal year the following school districts were classified as overcrowded - Grant, Shasta Lake Union, Bella Vista, Igo-Ono-Platina, Buckeye, Black Butte Union, and Happy Valley Union.

Population growth may be converted into estimates of student population growth using pupil generation factors. These factors assume that, on the average, each dwelling unit will contain a certain number of persons of school age. Usually these factors divide school age persons into elementary and high school and frequently distinguish between different housing types. Pupil generation factors reported by Shasta County School Districts are shown in Table SLR-1. After reviewing the most recent factors plus other studies, the factors of .4 (K-8) and .24 (9-12) were selected for this element.

Shasta County has been divided into ten planning areas and County population growth projections are distributed among them. Only in a few instances do these planning area boundaries even roughly correspond with school district boundaries. Table SLR-2 shows the relationship between planning areas and school districts. School districts are not shown as being within a planning area when only a small, sparsely inhabited portion of the district falls within the area. Within each planning area, this table estimates the distribution of 1981-1986 student population growth among the school districts. Based on the availability of school facility capacity information, the following discussion identifies possible deficiencies.

Fall River Joint Unified School District will experience an estimated growth of 164 elementary and 48 high school students during the next 5 years. Presently the District has the capacity to house the high school student increase, but can accommodate only 63 elementary students. Shasta Lake Union School District is projected to experience substantial student growth during the next 5 years. The estimated student population growth of 690 students should be treated cautiously, but it does indicate that the district's present ability to house 80 additional students may not be adequate. Shasta Union High School District has been experiencing declining enrollment and expects this to continue for several years. The population growth projected for the County would reverse this trend, but the district has the capacity to accommodate the estimated increase in student population shown in Table SLR-2.

TABLE SLR-1

PUPIL GENERATION FACTORS, SHASTA COUNTY SCHOOLS

<u>School District</u>	<u>Housing Type</u>	<u>Factor</u>	<u>Grades Covered</u>	<u>Date Factor Calculated</u>
Shasta Lake	All	.36	K-8	80
Union	S/F	.43	K-8	80
Bella Vista	S/F	.48	K-8	79
Grant	S/F	.47	K-8	79
Junction	S/F	.731	K-8	74
		.383	9-12	74
North Cow Creek	S/F	1.41	K-8	78
Happy Valley	S/F	.66	K-8	
Igo-Ono	S/F	.4	K-8	80
Anderson High School	S/F	.24	9-12	77

Source: Shasta County School Districts

TABLE SLR-2
ESTIMATED STUDENT POPULATION GROWTH, 1981-1986

Planning Area	Dwelling Unit Growth, 1981-86	School District (%)	Student Population Growth, 1981-1986		
			K-8	9-12	
Sacramento Canyon	35	Castle Rock	75	10	
		Canyon	25	4	
		Dunsmuir H	75	6	
		Shasta H	25	2	
Northwestern Forest	8	Castle Rock	30	1	
		Canyon	70	2	
		Dunsmuir H	30	0	
		Shasta H	70	2	
Big Bend	25	Indian Springs	24	2	
		Mountain	76	8	
		Shasta H	100	6	
North East Shasta	410	Fall River - E,H	100	164	98
Lassen	0	Fall River - E,H	100	0	0
Eastern Forest	58	Whitmore	10	2	
		Black Butte	80	19	
		Manton	10	2	
		Shasta H	100	14	
Eastern Upland	98	Oak Run	32	13	
		Millville	49	19	
		Whitmore	19	7	
		Shasta H	100	24	
		Anderson H	0		
SCR	7,500	Bass	1	30	
		Shasta Lake	23	690	
		Shasta	1	30	
		Buckeye	3	90	
		Bella Vista	1	30	
		North Cow Creek	1	30	
		Columbia	22	660	
		Junction	2	60	
		Enterprise	12	360	
		Redding	12	360	
		Grant	3	90	
		Happy Valley	3	90	
		Cascade	4	120	
		Pacheco	9	270	
		Cottonwood	3	90	
		Shasta H	80	1,440	
		Anderson H	20	360	
Western Upland	50	Igo-Ono-Platina	100	20	
		Shasta H	100	12	
French Gulch	8	French Gulch	100	3	
		Whiskeytown			
		Shasta H	100	2	

Source: Sedway/Cooke

The above analysis is the initial attempt at what should develop into an on-going planning relationship between the County's school districts and planning department. The department should collect and make available to the districts certain basic census, building permit, and other data. Cooperative planning should be undertaken in developing school enrollment projections, such as shown in Table SLR-2, identifying facility needs and deficiencies, analyzing the school related impacts of new development proposals, and selecting potential school sites.

Libraries

The Shasta County Library operates a Countywide system comprising one headquarters facility in Redding and 15 branches located throughout the County. The Library operates a system whose facilities and hours of operation are geared toward the community in which they are located. As shown in Table SLR-3, service ranges from a County owned building staffed by a full-time librarian to library shelves located in a rural general store and supervised by the proprietor. The foundation of this system rests in its ability to dispatch books from the headquarters in Redding to any of the branches in response to local requests. The Redding headquarters is also a member of the North State Cooperative Library System and may request books from member libraries, thereby significantly increasing the number of accessible books.

Libraries are extremely well used. In 1981, approximately 52% of the County population held valid registration cards. The typical level of registration is 30%. Examination of new registrations for the past five years, as shown in Table SLR-4, show steady growth in several communities with most communities maintaining the same level of annual new registrations.

Demand for library services will continue to grow with the increase in the County population. Annual reports from the branch libraries in recent years cite the increasing reluctance of their patrons to travel to Redding to use the headquarters and their increasing dependence on the branch libraries. Immediate needs for new facilities include replacing the rented facility at Central Valley with a County owned facility in order to guarantee continued, uninterrupted service to this area. Long range needs include providing some type of service in Centerville and Happy Valley.

Community Recreation

The community recreation needs of Shasta County residents and the degree to which these needs both are and should be met by County government vary with the type of community in which they live. Needs in the unincorporated urban areas of Central Valley, Cottonwood, Burney/Johnson Park and Fall River Mills/McArthur differ from the needs of persons living in the Rural Community Centers, such as Oak Run, Ono, and Shingletown. Needs in the urban areas, where most lands close at hand are developed and population densities are high, are for publicly owned park lands, either developed simply as turfed playfields or equipped with facilities such as ball fields, tennis courts, basketball courts, etc. To a certain degree, recreation needs in these urban communities are satisfied by school districts, but their ability to function as recreation providers is limited both financially and by their responsibilities in other areas. Recreation needs in these areas have also been met in part

TABLE SLR-3
SHASTA COUNTY LIBRARY FACILITIES

<u>Location</u>	<u>Facility</u>	<u>Hours Operation/Week</u>
Anderson	County owned building	51
Burney	County owned building	40
Castella	Rented building	6
Central Valley	Rented building	30
Cottonwood	Rented building	20
Enterprise	County owned building	30
Fall River Mills	Rented building	20
French Gulch	Rented space in store	6
Lakehead	Rented space in firehall	3
Montgomery Creek	Space in home	when librarian is home
Oak Run	Space in home	when librarian is home
Ono	Shelf in Store	store hours
Palo Cedro	Rented building	20
Redding	County owned building	63
Shingletown	Shelf in store	store hours
Whitmore	County owned building	20

Source: Shasta County Library

TABLE SLR-4

NEW LIBRARY REGISTRATIONS 1975-1980, BY LOCATION

<u>Location</u>	<u>75-76</u>	<u>76-77</u>	<u>77-78</u>	<u>78-79</u>	<u>79-80</u>	<u>80-81</u>
Anderson	1,604	1,459	1,489	1,076	1,637	
Burney	275	366	425	381	455	
Castella	10	4	5	44	3	
Central Valley	596	511	614	418	652	
Cottonwood	121	169	143	106	221	
Enterprise	523	582	818	655	757	
Fall River Mills	99	127	243	177	182	
French Gulch	39	31	27	43	47	
Lakehead	40	61	38	34	26	
Montgomery Creek	39	8	23	16	36	
Oak Run	20	19	30	31	20	
Ono	-	12	-	7	14	
Palo Cedro	137	114	150	112	161	
Redding	4,716	5,462	5,873	5,440	6,304	
Shingletown	25	27	31	9	29	
Whitmore	76	63	52	60	95	
TOTAL	8,320	9,015	9,961	8,609	10,639	

Source: Shasta County Library

by special districts and service clubs. Discussions with recreation officials in the unincorporated urban areas of the County indicate that a substantial portion of the recreation needs of the residents of these communities is not being met. These observations are based on the degree of use of available facilities and their inability to accommodate the total demand. Citing such factors as the impact of inflation on family income and the resulting decline in its ability to "purchase" recreation, increasing gasoline prices, and the "baby boom" caused by the post-World War II generation now reaching child-bearing age, they predict this unmet demand is likely to increase. The growth of these urban areas over the 20 year planning period will cause a corresponding increase in recreational demand. In the face of these factors, the future ability of schools, special districts, and service clubs and organizations to continue to meet even that portion of the recreation needs they are now supplying is very questionable.

In the rural areas of the County, the recreation demands of residents are no less than those of persons residing in urban areas, but they are of a different nature. Open lands are close at hand, population densities are low, and opportunities for informal recreation are readily available. Schools and service organizations play a major role in meeting most, if not all, the needs of rural community residents for developed recreation facilities.

Formulating an appropriate County policy for community recreation must account for these differences among communities. This policy must also realistically respond to the fiscal constraints on County government's ability to act as a recreation provider. Most importantly, this policy must recognize the need to preserve options for meeting the future community recreation needs of County residents. As the County continues to grow, opportunities now available to meet these needs will be foreclosed or available at a substantially higher cost.

An important tool available to County government in meeting community recreation needs is provided by Section 66477 of the Subdivision Map Act. This section authorizes counties and cities to require the dedication of land, the payment of in lieu fees, or a combination of both, for park or recreation purposes as a condition of the approval of a final or parcel map. Only fees may be required in subdivisions containing 50 parcels or less and there are time limitations on their use. Dedicated parklands and parklands purchased with in lieu fees must be available for the use of residents of the subject subdivision, but these lands need not be located within the subdivision. There is also no requirement that these parklands be reserved for the exclusive use of the residents of the subdivision. If a particular subdivision is located adjacent to parklands, the in lieu fee may be used to purchase parklands in other areas of the community in order to maintain the proper balance between the number of community residents and the amount of available parklands. Although a city or county may require the dedication of parkland or fees under Section 66477, they must be conveyed or paid directly to the local public agency which provides park and recreation services to the community within which the proposed subdivision will be located, if said agency elects to accept the land or fees. A local public agency includes special districts and

school districts. If, for example, a special district elects to accept dedicated parklands, the district, not the city or county imposing the dedication requirement, assumes responsibility for its maintenance.

Section 66477 of the Subdivision Map Act requires that it be implemented by local ordinance establishing definite standards for the determination of the size of the dedicated park area and the amount of the in lieu fee. Shasta County and the City of Redding have adopted such ordinances and their parklands and fee standards are shown in Table SLR-5. Although the City of Anderson does not impose dedication or in lieu fee requirements under Section 66477, it does require the payment of a park capital improvement fee at the time of application for a residential building permit, as also shown in Table SLR-5. It should be noted that Shasta County's requirement is on a per lot, not per unit basis, and the parklands and fee standards are maximums.

In order to adequately provide for the existing and future community recreation needs of its residents living in unincorporated urban areas in a manner consistent with their needs and the fiscal capabilities of County government, Shasta County should take the following action. Parklands dedications or in lieu fees should be required as a condition of approval of all final or parcel maps for land divisions occurring in areas designated by the Community Development Element as urban or suburban residential development. In the interest of uniformity, the existing County standards should be replaced with those applied to urban/suburban development occurring in incorporated areas, specifically the standards used by Redding. Parklands dedication and fee payment will be required only if a local public agency recreation provider, such as a school or special district, agrees to accept and maintain them.

It is anticipated that initially dedicated parklands will be developed as grassy or turfed playfields without lights, fences, or recreational equipment of any sort. Discussions with recreation officials in the unincorporated urban areas of the County indicate that the maintenance costs of this type of facility are relatively low and manageable. But looking beyond the initial development and use of this type of facility, it preserves the option for future, more intensive recreation development as the community grows and recreation demand intensifies. At some future time, there may be sufficient support for an assessment district or some other mechanism for financing recreation facility improvements, but these opportunities will be limited if parkland is unavailable or available only at a high price reflecting the development of the surrounding community. Requiring parkland and fee dedications now will provide valuable, maintainable recreation facilities for the present while reserving the opportunities for more intensive development in the future.

OBJECTIVES

SLR-1 Development of a land use pattern which can be adequately served in a cost-effective manner with schools, libraries, and community recreation.

POLICIES

SLR-a Shasta County shall enter into cooperative planning arrangements with County school districts for the exchange of data, the preparation of coordinated student enrollment

TABLE SLR-5

PARK LANDS AND IN LIEU FEE DEDICATION REQUIREMENTS

	<u>Use</u>	<u>Park Area</u>	<u>In Lieu Fee</u>
Shasta County	All dwelling unit types	maximum of 436 sq.ft./lot	maximum of \$25/lot
Redding	single family	870 sq.ft./unit	\$200/unit
	duplex	650 sq.ft./unit	\$149/unit
	multi-family	507 sq.ft./unit	\$116/unit
Anderson ¹	All dwelling unit types	None	\$90/unit plus \$46/bedroom

¹Park capital improvements fee.

Source: Sedway/Cooke

projections, and the development of facility plans responsive to the growth of the County.

SLR-b Shasta County shall begin planning the establishment of a County-owned library facility in Central Valley and shall monitor the need for increasing services at existing branches and establishing new branch libraries in response to the growth of the County.

SLR-c Shasta County shall require the dedication of parklands or the payment of in lieu fees in the areas of the County designated for urban/suburban development by the Community Development Element. Dedication shall be required only if the lands and fees so obtained will be maintained and administered by a local public agency which provides community recreation services.

SLR-d The locations of existing and proposed large-scale community recreation facilities shall be designated on General Plan maps as Natural Resources Protection Parklands (N-p).

IMPLEMENTATION

Policy SLR-a will be implemented through the Advanced Planning Division of the Planning Department. Implementation of policy SLR-b will be the responsibility of the Library Department and will require a commitment of County funding. Policy SLR-c will be implemented by revision of the subdivision improvement standards.

COMMUNITY DESIGN

INTRODUCTION

Community design is an optional General Plan Element permitted by Section 65302 of the Government Code. Its status as an optional element obscures the role of community design as either the explicit or implicit organizing force behind the mandatory elements, particularly land use and circulation.

FINDINGS

Community design is concerned with the physical design of communities as it determines their desirability as places in which to live, work, and recreate. The scope of community design goes beyond aesthetics to address all subjects of the relationship between the physical elements of a community and its residents. A well designed community will not only be attractive in appearance, but it will function efficiently in terms of providing for community services, the movement of its residents within and outside the community, and the needs of its residents for both social interaction and privacy.

Various aspects of community design have been addressed by other plan elements, such as Community Organization and Development, Housing, Circulation, and Scenic Highways. The scope of this element focuses on three major areas - community identity, community history, and community relationship with the natural environment.

A major community design concept of the General Plan is to provide for a variety of living environments in Shasta County. This

is recognized by the Community Organization and Development Element, which recognizes urban, town, and rural communities, and the community plans for the communities of the County. The Community Design Element addresses the need for community identification achieved through physical design.

Community history is addressed by the Heritage Resources Element and each community plan. The Community Design Element focuses on the physical relationship of these resources to the community.

The relationship between community and natural environment is a major theme of the General Plan which is made explicit by this element.

OBJECTIVES

- CD-1 To foster and preserve a sense of distinctive identity among the diversity of urban, town, and rural communities of Shasta County.
- CD-2 To promote harmonious relationships between urban, town, and rural communities and their surrounding natural environments.
- CD-3 To promote physical relationships between communities and their heritage resources

POLICIES

- CD-a The physical form and organization of communities should be clear and understandable to their residents.
- CD-b New development within communities, including public facilities, should conform to the prevailing scale and design of the community and should attempt to strengthen its major elements. Residents of communities should be given the opportunity to comment on the proposed design of public facilities.
- CD-c The boundaries of communities should be defined by edges created by contrasting land use patterns, emphasizing natural features, or focusing attention on prominent structures or natural features within the community.
- CD-d Unique and distinctive natural or man-made features within a community, especially those which are used in the name of the community, should be protected and their physical presence made known to persons traveling through the community.
- CD-e Preserve and protect sites and buildings with historic, archaeological, cultural, or scenic value.
- CD-f Provide for a sense of historic continuity in each community.
- CD-g Employ building forms, design solutions, and building and landscaping materials in new construction which are indigenous to the community without replicating older buildings.

- CD-h Protect mountains, foothills, valleys, and agricultural areas as means of maintaining connections with both the community's geologic origins and its early history.
- CD-i Maximize opportunities for physical contact with nature through improved accessibility and direct relationships between open spaces and the community.
- CD-j Maximize opportunities for visual contact with nature by maintaining views to the mountains, foothills, valleys, rivers, creeks, and agricultural areas.
- CD-k Establish a system of open spaces extending from the dwelling unit to the Countywide scale.
- CD-l Preserve and protect natural areas with particular attention to the sensitivity of development along the community boundaries.
- CD-m Provide within development areas a retention of significant natural forms, landscaping, and open spaces to assure personal contact with nature.
- CD-n Establish open space separations between existing communities when possible, and between existing communities and adjacent new development.
- CD-o The significant river and creekside corridors of Shasta County shall be symbolically designated on General Plan maps. The purpose of this designation shall be in part to identify and encourage the use of the community design opportunities presented by these corridors. When integrated into the design of Urban and Town Centers, these corridors can add variety and interest to the urban environment, provide open space links between related land uses, serve as buffers between incompatible land uses, and offer passive and active recreation opportunities. When integrated into the design of Rural Community Centers, these corridors serve to emphasize the presence of the natural environment and provide recreation opportunities.

IMPLEMENTATION

Design Standards for Urban and Town Communities

- Extensive urban areas unbroken by intervening open space and natural features should be avoided. Such patterns tend to submerge the identification of communities, produce a scale of development to which it is difficult to relate, and contribute to a homogeneous and unstimulating environment. The urbanization pattern should instead be broken into smaller, more identifiable units. Retention of major open space areas provides a major means of accomplishing this end.
- Major land forms should be retained in open space and employed as boundaries for communities or as breaks between communities.

- The County's many rivers and creeks offer other opportunities for clarifying and enhancing the identification of communities. The natural conditions of these watercourses and related vegetation should be protected and used as a means to distinguish one community from another.
- Agricultural lands provide other opportunities for differentiating between urban areas.
- The boundaries of urban and open space lands can be designed in several ways to promote community design objectives and policies.
 - A hard edge can be maintained to provide a sharp visual distinction between the built and natural environment while also maximizing opportunities for visual contact with the natural setting.
 - A soft edge can be provided to permit resident use of gardening or outdoor recreation areas.

Depending upon the circumstances, either of these two choices are acceptable. Generally, the hard edge solution is more appropriate where urban uses adjoin lands with important scenic attributes or habitat values. The soft edge option is applicable in areas adjoining agricultural lands, particularly in areas where a rural way of life is desired.

- To maximize exposure of urban residents to the adjoining natural environment, open space corridors can be provided within urban areas. Another option is to extend fingers of urban uses into open spaces. With either one of these design solutions, care should be taken to avoid fragmenting the pattern and form of the urban area.
- Smaller scale natural features should be retained and used within urban areas to provide visual interest, scale, recreation opportunities and associations with the County's natural history. Bluffs, ravines, and other land forms should be protected from development and used as landscape features within the urban areas. Such features can also be used to help distinguish the boundaries between communities or neighborhoods within the more intensively developed urban areas.
- A significant portion of one's daily exposure to the County's environment takes place on streets and highways. It is essential, then, that the role of roadways, beyond the accommodation of vehicular movements, be considered. Like other open spaces, roadways can be used as major means of organizing the physical environment. Consideration should therefore be given to the following roles for roadways:
 - Roadways can serve as focal points for communities. They become points about which facilities that provide basic goods and services are located. They are both commercial and social centers for the community.

- A somewhat similar function occurs with roadways acting as a spine about which a community is organized. In both of these instances, the roadway becomes an important visual and organizing event of the community. In each case, the multiple role of the roadway should be recognized with steps taken to ensure that public and private development is supportive of those roles. Commonly in such areas, consideration of pedestrian movements is critical, as are parking and access requirements. The visual and functional relationships of the facing frontages along a roadway are equally important considerations.

- In other situations, roadways act as edges that define and separate one area from another. Where such a relationship is desired, steps should be taken to retain, enhance, or promote this. Conversely, care must be taken in roadway planning and design to avoid severing areas that functionally or socially constitute a unit.

- Roadways also act as functional and visual links that relate neighborhoods, special districts, or communities to each other. Where this condition exists or is desired, it is essential that a consistent appearance be maintained to reinforce one's mental image or perception of the route. This can be accomplished by establishing a design theme for the entire route that maintains uniformity in the roadway's crosssection and in related items such as plant materials, street lighting, paving materials, and signing.

- Finally, considerations need to be given to the roadway network, since the network is perhaps the single most important factor contributing to, or detracting from, one's understanding of and orientation to the County's physical environment. To assist in the promotion of the roadway network as a major organizing element of the physical environment, the following principles should be adhered to:

- A hierarchy of roadways, based on the functional role or roles of the routes, should be established. Appropriate design requirements should be established to enable each route to be more readily perceived by its user. Differences in the travel function of the roadways, such as accommodating major through movements, collecting trips from the local area, or providing access to adjoining commercial uses, must be recognized in addition to differences in patterns, uses, and intensities of pedestrian movements along the street. When possible, conflicts in the basic functions of the street should be avoided.

- Major roadway intersections that serve as the motorist's decision point and key orientation point should be easily distinguishable from other segments of the route. Changes in the width of the right-of-way, paving materials, plant materials, lighting, signing, and siting of adjacent structures should take place at these locations to establish the needed distinctiveness.

- Lack of continuity in routes and variations in alignment and dimensions can lead to ambiguity and disorientation. When this

occurs, steps should be initiated to correct or mitigate the lack of clarity. Such actions could include the completion of discontinuous routes and the realignment or other changes in the roadway's width and channelization, especially at critical intersections. The use of consistent design themes can also serve as needed orientation providers.

- Man-introduced landscaping can help promote a number of the community design policies. Principally, landscaping can help assure a better man-to-nature relationship, can maintain human scale in urban settings, can provide a sense of harmony and unity in areas with diverse architectural forms, and can invoke more positive personal identification with the community.

- Climatic differences throughout the County should be taken into consideration when selecting plant materials for both public and private areas. Plant materials should be selected that are either native to the area or reasonably acclimated to the area's growing conditions. If chosen accordingly, ongoing maintenance costs can be reduced. Native or adapted plant materials can also provide visual distinctions between the County's communities.

- Within suburban and urban areas, the land area devoted to vehicles, i.e. streets and parking, can range from 15 to 20 percent in residential areas to 70 to 80 percent in commercial and industrial areas. This amount of land provides excellent opportunity for the introduction of landscaping materials that enhance the appearance of developed areas.

- Parking areas can be used to introduce major landscaping themes and can alternatively provide landscape reliefs within an intensively developed area. They can also be used to maintain consistency in the character of residential and nonresidential uses in suburban settings.

- The landscaping of street spaces provides another opportunity to improve the County's physical setting. As such, landscaping should become an integral part of the streets. Materials should be selected and sited to minimize the visual dominance of paved surfaces, to create more appropriately defined and humanly scaled public spaces, and to help distinguish pedestrian environments from the vehicular spaces.

- When possible, median landscaping should be provided along major arterials. Such landscaping should be scaled according to the size of the roadway and the importance of the route. Major views from the roadway should be enhanced and emphasized by the landscaping. Plant materials should not obscure views.

- Curbside parking is not recommended since the increased pavement width results generally in less defined street spaces and the visual predominance of paved surfaces over the unpaved. Efficiency in traffic movements and improved utilization of the roadway itself are also promoted by the elimination of curbside parking.

Design Standards for
Rural Communities

- Planting strips along the edges of the roadways should be required. Such a requirement would permit placement of trees in sufficient size and alignment to contain and dominate the road space. It also helps to distinguish the adjoining pedestrian areas. If necessary, lot and front yard depths should be reduced to compensate for increases in right-of-way widths.
- At the individual parcel level, provisions governing building coverage and siting, as well as vehicular access and parking, should allow opportunity for ample landscaping. Where front, side, and rear yards are provided, their dimensions should permit the use of moderate to large scale plant materials. Small, inaccessible, and poorly lighted yard spaces should be avoided. In higher density areas, provisions should be made for the landscaping of roof and decked surfaces.
- Landscape materials should be provided in a manner that enhances both the related public spaces (principally the adjoining street) and the on-site open spaces oriented to the site's occupants.
- Buildings should not appear to exceed the height of a mountain backdrop when viewed from major public areas or travel corridors. The distance between structures should be sufficient to permit penetration of views so that the entire shape of the natural form is apparent. This relationship is a factor of both the distance from the structures to the natural backdrop and the distance between the structure and the view site.
- Consistent with the overall objective of enhancing the natural environment of the community, development shall be as unobtrusive as possible, except in communities where the existing pattern and extent of development more or less dominates the natural surroundings already. In these specific communities, a wider selection of building materials and colors may be permitted. Colors shall reflect the intent of blending with the immediate surroundings and shall be generally confined to earth and vegetation colors (browns, siennas, olive greens). Sheet metal roofs shall be avoided as they reflect sunlight thereby catching the eye and drawing attention to the building.
- There is a natural spacing between trees in mature forests; any building that spreads out too far horizontally or is monolithic in shape will carve a hole in the forest, which will contrast strongly with the surroundings, and therefore also be very prominent. Building size and placement shall respect these natural rhythms and generally emphasize the vertical nature of the forest character. In the case of a large project, the bulk of the building shall be fragmented into smaller units that respect the location of existing trees and the lie of the land. Unless designated otherwise in the provisions of a specific community plan, buildings within a rural community shall not exceed two stories in height or twenty-four feet, whichever is the lower.

- Construction generally shall avoid the use of monolithic building techniques. Techniques that are flexible enough to meet the specific requirements of a highly variegated site shall be encouraged (e.g., techniques employing short structural members and small additive modules, capable of easy on-site handling). Frame construction that allows modifications and additions to the facades of the building, thereby further breaking up the visual area, is highly recommended. Surface interest to buildings shall be encouraged.
- Fencing employed to define and protect property from trespass shall be of an open construction that does not totally restrict views through to the other side and shall be of material natural to the community. In situations where visual privacy is also required, this shall be achieved by the use of landscaping rather than solid closed construction. Fencing around private property which obscures significant views or other important points shall be prohibited.
- It is possible to convey the idea of a property boundary without erecting a continuous impenetrable barrier. The State Parks have evolved a design vocabulary of low horizontal logs or a string of short vertical tree stumps to define areas of vehicular use from pedestrian use. Similar low-key design solutions would convey the message without disturbing the ground level visibility that is so much a part of the natural character of a rural community.
- All building development shall be screened as far as possible from view from the public right-of-way in order to lessen the apparent extent of man-made additions and to reduce the visual dominance of development. All screening shall be effected through the use of natural vegetation where at all feasible. The use of landscape materials which are not natural to the specific location shall be strictly prohibited. Screening shall be designed essentially from the standpoint of eye level views, and so it is not always necessary to have to consider major additions to the immediate environment of a building in order to hide it. The setback from the public right-of-way, the nature of existing vegetation, and the placement of screening materials all enter into the solution. For example, if a building is already set back some distance, then a thin strip of low level vegetation close to the right-of-way will effectively screen the structure. In areas of thick ground cover a building need not be set back very far in order that it be naturally screened by foreground vegetation. Alternatively, in areas with little or no groundcover and low density of trees, the building would have to be set back some considerable distance in order to be naturally screened by intervening trees. In such conditions where there is little or no ground cover, and where additional low level vegetation would look out of place and be difficult to maintain, low gentle berms may be used to great effect.
- In situations where construction has necessitated the removal of original vegetation and in cases where it can be shown that the work has disrupted the micro environment conditions to the extent that original vegetation has subsequently died (e.g., as a result of a lower water table), the area shall be revegetated with material consistent

with the original vegetation, with a special emphasis on reforestation.

- No area may be cleared for development and then allowed to stand idle beyond a certain time. This recommendation is directed at the practice of generally preparing a site for development in terms of clearing vegetation and rough grading and then allowing it to stand idle until a prospective developer purchases it. In order to protect existing vegetation and to reduce the erosion of recently cleared sites, all preparation for development shall be coordinated with a specific development proposal and a continuous phasing plan. In this way there is the opportunity to avoid maximum disruption of the natural environment and to reduce visual scarring of the land.

- Residential development shall be discreetly integrated into the natural areas of the rural community. In general residential buildings shall be compact rather than expansive, utilizing the natural surroundings as outdoor space rather than creating elaborately fenced yards. As mentioned above, the general intent shall be to disperse building development to minimize visual intrusion, but at the same time individual buildings shall be clustered sufficiently to make efficient use of supporting facilities, such as roads, in order to reduce them to a minimum.

Subdivision layouts shall reflect the topography and existing natural features rather than imposing the typical maximum number of units in a given acreage type of plan. Efforts should be directed towards blending the development in with the surroundings rather than making it stand out. To this end, revegetation can do much to create the illusion of naturalness, especially around private outdoor spaces where fences and walls only create the impression of an extended building and detract from the natural setting. Excessively long straight lines shall be avoided as they only serve to set that element apart from the natural surroundings.

- Facilities that are used exclusively by local residents shall be located outside the general areas of public experience. They shall be easily accessible from local residential areas but shall not border on the roadway corridor or be visible from public viewing points. Conventional standards for the design of these facilities shall not be applied indiscriminately without due regard for the unique characteristics of their surroundings. Natural materials, dark colors, fragmented siting of structures, and respect for existing trees shall all be considered. Where these local facilities are also used by the general public, they shall be clustered together to become the focal point of the local community.

- All commercial development, especially gas stations, shall be visually compact. This invariably means that parking and forecourt areas shall be visually less obtrusive. Providing limited use of the lot frontage and developing the whole depth of the lot, rather than the reverse which is usually practiced, will provide access and the opportunity for self-advertisement but also allow part of the frontage to be maintained or revegetated with native plants.

- The location, type, and extent of street lights and other forms of night lighting shall establish a particular environmental character which should be as logically related to the intended image of the situation as sign controls, building color and materials, etc. No light fixture shall project above thirty-five (35) feet.
-

TABLE CE-1: COUNTYWIDE ELEMENTS
AND RELATED OBJECTIVES
(continued)

TABLE CE-1: COUNTYWIDE ELEMENTS AND RELATED OBJECTIVES (continued)	
COUNTYWIDE ELEMENTS	RELATED OBJECTIVES
	SH-4 Scenic corridors, coordinated planning
	OSR-1 Open space and recreation resources protection
	OSR-2 Public access to open space and recreation resources
	OSR-3 Recreation resources, riparian corridors
	HER-1 Historic resources protection
	HER-2 Geologic resources protection
	CO-1 Growth accommodation
	CO-2 Variety of living environments
	CO-3 Natural resource values
	CO-4 Land use conflicts
	CO-5 Fiscal balance
	CO-6 Relationship between public and private expectations
	CO-7 Community values and private economic resources
	ED-1 Employment opportunities and new economic development
	ED-2 Relationship of jobs to housing
	ED-3 Opportunities for new businesses
	ED-4 Recreation-based employment
	ED-5 Renewable resource base
	ED-6 Transportation system improvements
	ED-7 Industrial lands protection
	H-1 Housing unit construction, 1982-86
	H-2 Land supply for housing
	H-3 Mix of housing opportunities
	H-4 Housing, public services and employment
	H-5 Maintain existing housing and communities
	H-6 Open housing
	H-7 Energy efficient housing
	C-1 Utilization of existing road capacity
	C-2 Land use pattern and road construction
	C-3 Land use pattern and dependence on the automobile
	C-4 Land use pattern and alternative to automobile
	C-5 Pedestrian and bicycle circulation
	C-6 Circulation design and improvement standards
	WS-1 Water supply and location of future development
	WS-2 Countywide water management
	WS-3 Water conservation
	WS-4 Groundwater resources, understanding
	WT-1 Wastewater treatment and location of future development
	WT-2 Wastewater treatment in South Central Region
	WT-3 On-site wastewater treatment systems
	SW-1 Solid waste management plan
	SW-2 Septic tank disposal facilities
	SLR-1 Schools, libraries, and community recreation
	CD-1 Community identity
	CD-2 Community relationship to natural environment
	CD-3 Community relationship to heritage resources
PUBLIC SAFETY GROUP	
Seismic and Geologic Hazards	
Flood Protection	
Dam Inundation	
Fire Safety and Sheriff Protection	
Noise	
Hazardous Materials	
RESOURCES GROUP	
Agricultural Lands	
Timberlands	
Minerals	
Energy	
Air and Air Quality	
Water and Water Quality	
Fish and Wildlife Habitat	
Scenic Highways	
Open Space and Recreation	
Heritage Resources	
COMMUNITY DEVELOPMENT GROUP	
Community Organization and Development	
Economic Development	
Housing	
Circulation	
Water Supply, Wastewater and Solid Waste	
Schools, Libraries and Community Recreation	
Community Design	

TABLE CE-1: COUNTYWIDE ELEMENTS
AND RELATED OBJECTIVES

COUNTYWIDE ELEMENTS	RELATED OBJECTIVES																																													
	SG-1	SG-2	SG-3	FL-1	DI-1	FS-1	FS-2	FS-3	N-1	N-2	N-3	HM-1	HM-2	AG-1	AG-2	AG-3	AG-4	AG-5	AG-6	T-1	T-2	T-3	M-1	E-1	E-2	E-3	A-1	A-2	A-3	A-4	A-5	A-6	W-1	W-2	W-3	W-4	W-5	FW-1	FW-2	FW-3	FW-4	SH-1	SH-2	SH-3		
	Seismic hazards	Unstable slopes	Other geologic hazards	Floodplain management	Dam inundation protection	Wildland fires	Location of new development	Crime prevention	Existing quiet areas	Noise sensitive new development	Existing noise generators	Hazardous materials, siting new development	Hazardous materials, emergency preparedness planning	Agricultural lands, full-time operations	Agricultural lands, part-time operations	Agricultural lands, public interest	Agricultural lands preservation, community understanding	Agricultural lands, protection from development pressures	Protect agricultural water resources	Timberlands, protection of	Timberlands, protection from adjacent uses	Timberlands, optimum use	Mineral resources, designation of	Nonrenewable energy resources	Renewable energy resources	Recycling of solid wastes	Air quality, aesthetic and health resource	Air quality, scenic resources	Air quality, attainment area	Air quality, protection of	Air quality monitoring	Air quality, range and timber management	Groundwater, availability	Groundwater, understanding	Surface water, county access	Water conservation	Water resources protection	Wildlife habitat protection	Significant watercourses protection	Wildlife habitat and agricultural and timber management	Wildlife habitat, public access	Scenic corridors protection	Scenic corridors, new development	Scenic corridors and agricultural and timber management		
PUBLIC SAFETY GROUP																																														
Seismic and Geologic Hazards																																														
Flood Protection																																														
Dam Inundation																																														
Fire Safety and Sheriff Protection	●																																													
Noise																																														
Hazardous Materials																																														
RESOURCES GROUP																																														
Agricultural Lands																																														
Timberlands																																														
Minerals																																														
Energy																																														
Air and Air Quality																																														
Water and Water Quality	●		●	●																																										
Fish and Wildlife Habitat																																														
Scenic Highways														●	●						●																									
Open Space and Recreation														●	●						●																									
Heritage Resources																																														
COMMUNITY DEVELOPMENT GROUP																																														
Community Organization and Development														●	●						●																									
Economic Development														●	●						●																									
Housing																																														
Circulation																																														
Water Supply, Wastewater and Solid Waste																																														
Schools, Libraries and Community Recreation																																														
Community Design																																														

Part Three

COMMUNITY

PLANS



The quality of life available in Shasta County is the sum of the living environments offered by its different communities. These communities present a wide variety of unique living environments based on their location, level of services, size, and other factors. As noted in Part One, one of the major goals of the General Plan is to preserve this range of opportunities. This goal is partially achieved by distinguishing between three types of communities - urban, town, and rural - and formulating policies applicable to each type. Part Two of the Plan presents these policies within the various Countywide elements.

Part Three of the Plan recognizes that beyond these Countywide policies, it is necessary to address each community individually and, when appropriate, develop policies responsive to its unique opportunities and needs. This is the purpose of the community plan. Each community plan presented in Part Three focuses on planning issues not addressed by the Countywide elements. When necessary for clarity, material presented in Part Two is also included with a particular community plan, but repetition of material from the Countywide elements is generally avoided. For this reason, Parts Two and Three must be read together and the Countywide elements and community plans must be understood as being complementary. Since the Countywide elements establish an internally consistent, overall planning framework, they shall normally prevail in any conflicts with community plans.

Community plans are intended to be reviewed and, if appropriate, revised periodically in the same manner as the Countywide elements. Community plans shall be systematically and comprehensively reviewed every five years concurrent with the review of Countywide elements.

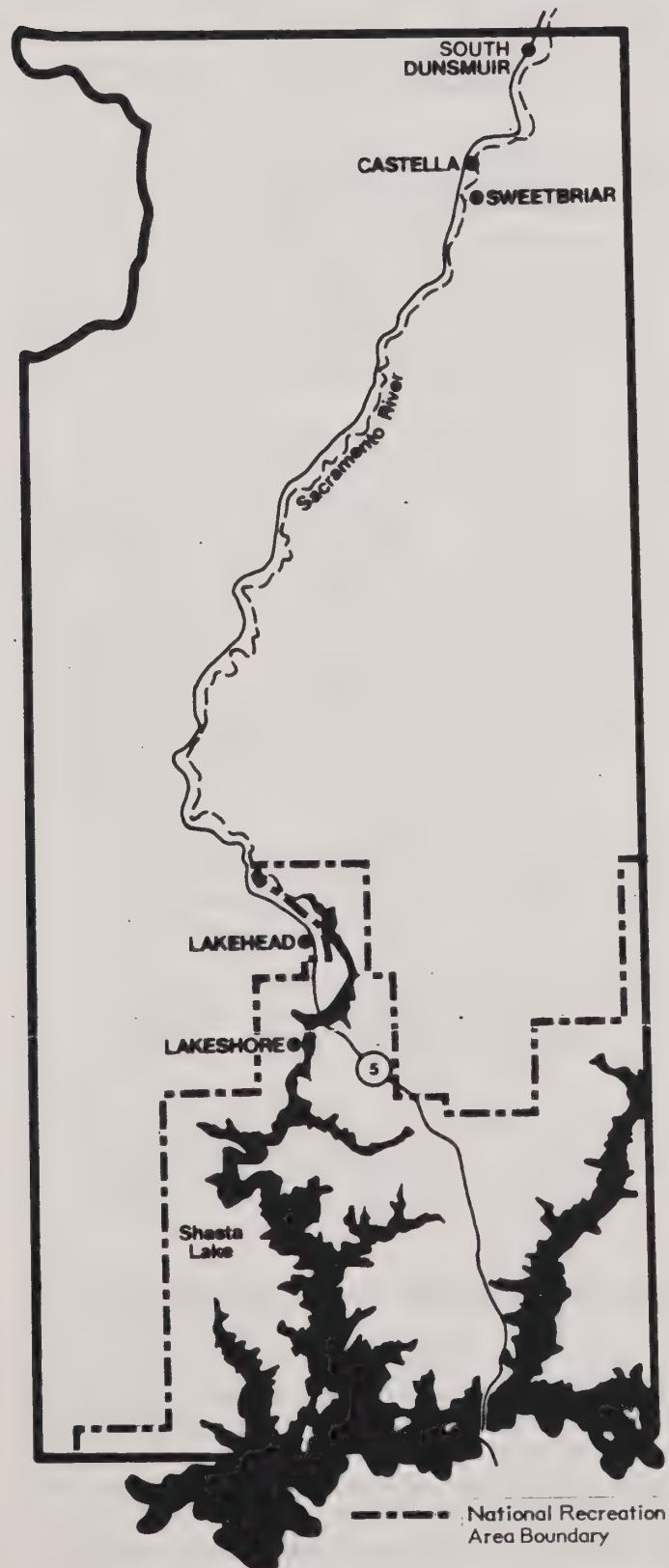
Community plans are intended to function as the primary vehicle by which County residents participate in the planning process. The community plan should both allow the residents of a given community to express their desires and aspirations, and enable them to understand their larger, Countywide implications.

Community plans are presented on a planning area basis. A map of each of the ten planning areas showing its constituent communities precedes each series of community plans. The organization of each community plan generally follows that of the Countywide elements. An introductory section is followed by a findings section, then policies and implementation. Again it should be noted that community plans must be viewed within the context of the Countywide elements. If a subject area is not addressed by a community plan, the reader should consult the applicable Countywide elements.

Many of the communities addressed in Part Three prepared their own plans for consideration in the revision of the General Plan. Some plans provided much more detail than others. All materials submitted were consulted in the preparation of the community plans. To a certain degree, the level of detail of a particular community plan reflects the level of detail of the materials and plans submitted by its residents.

Each community plan is introduced by a brief statement of the community's history. These histories are largely drawn from Edward Petersen's seminal work entitled In the Shadow of the Mountain: A Short History of Shasta County, California, 1965. The reader is referred to this work for a fascinating and detailed historical account of Shasta County.

Sacramento Canyon



SOUTH DUNSMUIR RURAL COMMUNITY CENTER

HISTORY

South Dunsmuir, also known as Crag View, is a small unincorporated community which is both physically and socially closely related to the incorporated community of Dunsmuir located just north of the Shasta-Siskiyou County Line. The origins of this community are traced to mining and logging activities in the area.

FINDINGS

South Dunsmuir comprises two subareas, each served by an I-5 interchange. The part of the community located to the east of the northern interchange is classified as Rural Community Mixed Use. Most of this area is developed and receives water from the Cragview Community Service District. It uses a combination of appropriative water rights and allocation from the Shasta County Water Agency. Its current allocation is 40 acre feet per year. Little Castle Creek is the district's water source and its current use rate is 34 acre feet per year.

The other part of the community is served by the southern Interchange and is located to the east of the Sacramento River. Access to this 320 acre undeveloped area is provided by a County maintained road and bridge. This area is classified as Natural Resource Protection-Recreation because of its proximity to the Castle Crags State Park. Assuming a lot size of 4 acres and excluding steep slopes, 180 acres of this area could accommodate 45 dwelling units.

Wastewater treatment is provided by individual on-site systems.

A 1978 survey of housing conditions in the community found approximately 28% of the housing units to be marginal or sub-standard (see Appendix H).

POLICIES AND IMPLEMENTATION

- a. Development of South Dunsmuir shall conform to the Community Development Element and the land use pattern and circulation system shown on the community plan map.
Implementation: Zoning ordinance, subdivision map.
- b. Shasta County shall conduct a housing conditions survey and develop a rehabilitation program.
Implementation: Housing Authority.
- c. Development of lands classified as Natural Resources Protection-Recreation shall mitigate their visual impacts on users of Castle Crags State Park.
Implementation: Site plan review.

CASTELLA/SWEETBRIAR RURAL COMMUNITY CENTER

HISTORY

Castella/Sweetbriar is a small community located at the main entrance to Castle Crags State Park. The community has its origins as a railroad stop and mining supply center. In 1892, the community was granted a post office. Although some gold was discovered in this area, Castella/Sweetbriar was and continues to be a recreation and resort center for local and non-local visitors. For a time, the economic base of the community was supplemented by the Ralph L.

Smith Company (sawmill), but logging operations have been discontinued. Today, Castella/Sweetbriar's charm comes from the rugged beauty of its location, and the recreational opportunities provided by the nearby Castle Crags State Park.

Much of Castella/Sweetbriar has been built out on small lots whose size approximates those found in urban communities. Future development at these densities is constrained by limitations on the use of on-site wastewater treatment systems. With the exception of community water supply, this small community does not have the services typically associated with urban areas. Given this and other factors, such as its size, Castella/Sweetbriar is classified as a Rural Community Center.

FINDINGS

This community's linear shape reflects its location in the narrow Sacramento Canyon. The community is also traversed by the Southern Pacific Railroad, Interstate-5, and two transmission lines. All of these features constrain the development potential of this community.

The Castella/Sweetbriar area uses Castle Creek as its major source of water supply. The community has formed a County Service Area and uses a combination of appropriative water rights and Shasta County Water Agency allocation. In addition to Castle Creek, Indian Creek and individual wells serve as water sources. Wastewater treatment is provided by individual on-site systems.

Castella/Sweetbriar is served by two I-5 interchanges. The northern interchange provides access to Castle Crags State Park and the area surrounding it is classified as Rural Community Mixed Use to accommodate its local and tourist commercial serving function. The northern interchange also serves a residential area located south of the interchange and west of the Sacramento River. This area is classified as Rural Residential A and is essentially built-out.

The southern interchange serves a residential area located to the northeast. Part of this area is located in the 100 year floodplain of the Sacramento River. To the east of the floodplain is located an approximately 60 acre area which is classified as Rural Residential A. Assuming an average lot size of 4 acres, this area could accommodate 15 dwelling units. In order to provide adequate access for emergency purposes, this area should not be developed unless a publicly maintained bridge is provided to link this area with the residential area served by the northern I-5 interchange.

The balance of this area is classified as Natural Resource Protection-Recreation because it is adjacent to State Park lands. Approximately 180 acres of these lands have development potential. Assuming a lot size of 4 acres, these lands could accommodate 45 dwelling units.

POLICIES AND IMPLEMENTATION

- a. Development of Castella/Sweetbriar shall conform to the policies set forth by the Community Development Element Group and the land use pattern and circulation system shown on the community plan map.
Implementation: Zoning ordinance, subdivision map review.

- b. Development of lands classified as Natural Resource Protection-Recreation shall mitigate their visual impacts on users of Castle Crags State Park.
Implementation: Site plan review.

LAKEHEAD RURAL COMMUNITY CENTER

HISTORY

Lakehead is a small residential community with a small commercial area oriented to the tourist traffic along Interstate 5. It traces its origins to the development of recreation communities following the creation of Lake Shasta.

FINDINGS

The main part of the community of Lakehead is bordered on the west by Interstate 5, on the east by the Southern Pacific Railroad, and on the north by U.S. Forest Service lands. This approximately 25 acre area falls within the boundary of the Shasta-Trinity National Recreation Area and has been excessively subdivided into small parcels of the typical size of 5,000 square feet which are served by County maintained roads. Also located in this area are commercial services oriented to tourist traffic along Interstate 5.

To the east of the main part of Lakehead lies a small area of privately owned land. The Southern Pacific right-of-way isolates this area from the rest of Lakehead and it is not accessible by County maintained roads. Lakehead receives its water supply from individual wells. Wastewater treatment is provided by individual, on-site systems.

Located to the north and west of the main part of Lakehead are privately owned lands adjacent to the National Recreation Area (NRA). These areas have not been extensively subdivided. The area to the north is accessible by a County maintained road and is relatively level. The area to the west is characterized by steep slopes and is traversed by a transmission line.

The Lakehead community, with the exception of the commercial services, is categorized as Natural Resource Protection-Recreation in recognition of its location adjacent to and within the NRA. Approximately 85 acres of these lands located east of Interstate 5 have development potential. Assuming an average lot size of 4 acres, this area could accommodate 21 additional dwelling units.

The small commercial center is classified as Rural Community Mixed Use.

The federal and state governments are currently sponsoring a study which is evaluating the feasibility of enlarging Shasta Dam and Shasta Lake. At present the elevation of the dam spillway is 1,065 feet. Virtually all of Lakehead is below the 1,250 foot elevation contour. Any significant expansion of Shasta Lake would inundate most of this community. This factor should be considered in decisions involving the siting of public facilities in this community, but the weight assigned to it will depend on the likelihood of this project being undertaken.

POLICIES AND IMPLEMENTATION

- a. Development of Lakehead shall conform to the Community Development Element and the land use pattern and circulation system shown on the community plan map.
Implementation: Zoning ordinance, subdivision map review.
- b. Development of lands classified as National Resources Protection-Recreation and Rural Community Mixed Use shall mitigate its visual impacts on users of the National Recreation Area.
Implementation: Site plan review.
- c. Siting of public facilities within the community shall recognize the potential enlargement of Shasta Dam.
Implementation: Capital improvements program.

LAKESHORE RURAL COMMUNITY CENTER

HISTORY

Lakeshore is a community of relatively recent origin. In addition to providing commercial services oriented toward tourists using Lake Shasta, it is a recreational residential community with a significant population of retired persons.

FINDINGS

This community comprises three subareas, denominated here as north, central, and south. Only the north subarea has direct access to Interstate 5. Parts of all subareas are visible from Shasta Lake and are surrounded by lands within the Shasta-Trinity National Recreation Area (NRA).

Most of the north subarea is classified as Rural Community Mixed Use. This classification recognizes the tourist commercial function of this area and its freeway access. Approximately 10 acres of this land is vacant and could be used for residential purposes. The remainder of this area, approximately 30 acres, is characterized by 30% slopes and is visible from Shasta Lake. Accordingly, this area is classified as Natural Resource Protection-Recreation (N-R).

The central subarea is accessible by vehicle only by bridge from the north subarea. A large portion of this region has been subdivided into small lots and although some lots have already been developed, there remains approximately 20 acres of vacant land. Tourist oriented facilities in this subarea are generally located along Lakeshore Drive.

The south subarea, also known as Sugarloaf, is accessible only via a bridge from the central subarea. This area is exclusively residential and portions have been extensively subdivided. Given its visual proximity to Shasta Lake and its physical proximity to the NRA, this area is classified as N-R. Approximately 55 acres of this area, most of it on slopes of 30% or more, are vacant.

Overall, approximately 105 acres of lands are classified as N-R and 10 acres of land classified as Rural Community Mixed Use could be developed within the Lakeshore Community. However, steep slopes, septic tank suitability, and siting and grading considerations for view protection will limit development of the N-R lands and will cause whatever development that does occur to be relatively

costly. Assuming that only 56 acres is developable and an average lot size of 4 acres, these lands could accommodate 14 dwelling units. These calculations do not consider pre-existing lots, development of which would considerably raise the number of dwelling units.

Lakeshore is supplied with water by a mutual water company, individual surface diversions, and wells. Sugarloaf, part of the Lakeshore Rural Community Center, has also formed a County Service Area under Shasta County jurisdiction. The service area derives its water supply from an appropriative right on an unnamed stream tributary to Shasta Lake and a well. Wastewater treatment is provided by individual, on-site systems.

The federal and state governments are currently sponsoring a study which is evaluating the feasibility of enlarging Shasta Dam and Shasta Lake. At present the elevation of the dam spillway is 1,065 feet. Virtually all of Lakeshore is below the 1,250 foot elevation contour. Any significant enlargement of Shasta Lake would inundate most of this community. This factor should be considered in decisions involving the siting of public facilities in this community, but the weight assigned to it will depend on the likelihood of this project being undertaken.

POLICIES AND IMPLEMENTATION

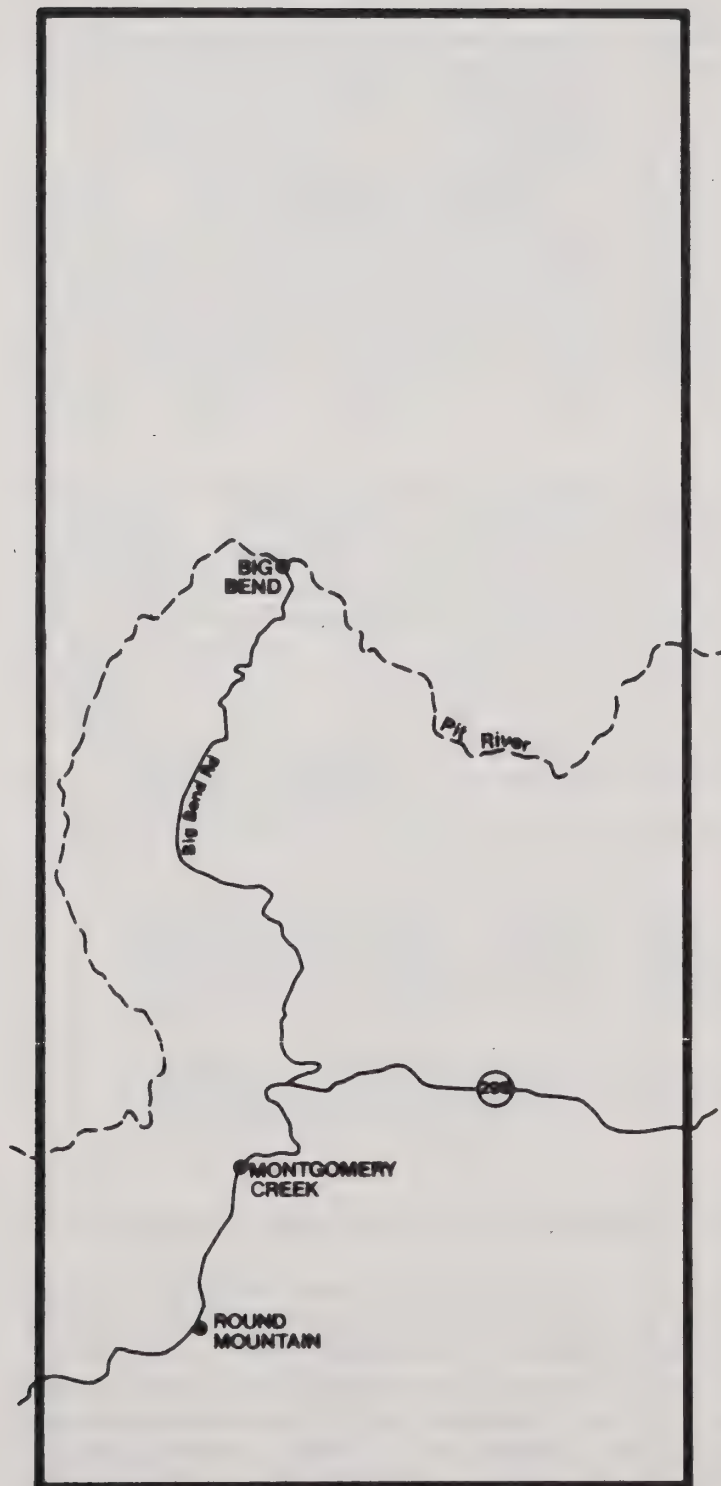
- a. Development of Lakeshore shall conform to the Community Development Element and the land use and circulation pattern shown in the community plan map.
Implementation: Zoning map, subdivision review.
- b. Development of lands classified as Natural Resources Protection-Recreation and Rural Community Mixed Use shall mitigate its visual impacts on users on the National Recreation Area.
Implementation: Site plan review.
- c. Siting of public facilities within the community shall recognize the potential enlargement of Shasta Dam.
Implementation: Capital improvements program review.

Northwestern Forest



NOTE: Northwestern Forest does not contain any Rural Community Centers. The preceding map is included for orientation purposes.

Big Bend



ROUND MOUNTAIN RURAL COMMUNITY CENTER

HISTORY

During the period of intense copper production in Shasta County, Round Mountain and nearby Ingot were referred to as the "Furnaceville" district. While mining played a major role in this community's development; farming, stock raising, and lumber have also contributed to its growth and vitality. Its post office, initiated in June, 1872, has been maintained to the present day.

A County descriptive circular published in 1882 asserted that in the Round Mountain area "there are good fruit, hay, and grain ranches." The California Illustrated, a guide book for travelers, commented in 1891 that "the Shasta Lumber Company has their headquarters at Round Mountain." By the turn of the century this community was still active, boasting a church, school, general merchandise store, saloon, and hotel. By the end of the 1960's a new school, post office, and store as well as a large Pacific Gas and Electric substation evidenced the vitality of this mountain community.

FINDINGS

Round Mountain has excellent highway access and moderate topography. Development is somewhat constrained by the three transmission corridors serving the Pacific Gas and Electric Substation which borders the community to the north. The Mixed Use Commercial Service area is located between Route 299 and one of these corridors. Rural Residential A areas are situated along existing collector roads and approximately 150 acres of land are so classified.

Water is obtained from wells, stream diversions, and a small water company system that is spring fed. Wastewater treatment is by individual, on-site systems.

Two creeks, Willow and Cedar, flow through the community.

POLICIES AND IMPLEMENTATION

- a. Development of Round Mountain shall conform to the Community Development Element and the land use pattern and circulation system shown on the community plan map.
Implementation: Zoning ordinance, subdivision map review.
- b. Development along Willow and Cedar Creeks shall conform to Countywide policies FW-f, OSR-h, and CD-o.
Implementation: Site plan review.

MONTGOMERY CREEK RURAL COMMUNITY CENTER

HISTORY

The Montgomery Creek community originated with the establishment of the Montgomery Ferry post office in 1877. The area was so named after Zach Montgomery, a Shasta County pioneer who led fishing parties into the region during the 1850's. By the 1880's, local newspapers attested to the presence of an excellent timber resource in Montgomery Creek. An article appearing in the Redding Independent reported: "The amount of labor performed here is gigantic, the settlers literally having hewed their houses out of the living forests . . . The land already cleared is dotted over with fine farms that add to the beauty of the rugged scene around them."

In 1900, Montgomery Creek was well known as a stock and dairying area, as well as the site of a wood camp serving the nearby Mountain Copper Company Smelter. To this day, Montgomery Creek continues to provide a peaceful rural atmosphere.

FINDINGS

This community is situated to the north of Round Mountain and enjoys excellent highway access to Route 299. The mixed use commercial core of the community is oriented along this highway and is surrounded by approximately 150 acres of land classified as Rural Residential A. Policies relating to the development of this area address protection of Montgomery Creek.

Water is obtained from individual wells, diversions from Montgomery Creek, and from a private water company which furnishes unprotected spring water to the school, a gas station, a tavern, and a small number of residences. Wastewater treatment is by individual, on-site systems.

POLICIES AND IMPLEMENTATION

- a. Development of Montgomery Creek shall conform to the Community Development Element and the land use pattern and the circulation system shown on the community plan map. Implementation: Zoning ordinance, subdivision map review.
- b. Development along Montgomery Creek shall conform to Countywide policies FW-f, OSR-h, and CD-o. Implementation: Site plan review.

BIG BEND RURAL COMMUNITY CENTER

HISTORY

Community development in the Big Bend region began in the 1860's. Surrounded by mountains to the north and east, the Big Bend basin supported large stands of pine, fir and cedar trees interspersed with open areas well suited to the farming of rye, oats, wheat, and barley. In 1914, a bridge built across the Pit River substantially improved transportation into the Big Bend area and facilitated the further development of this community as an agricultural center.

Due to its proximity to the turbulent Pit River, the Pacific Gas and Electric Company (PG&E) chose Big Bend as the site for a hydroelectric powerhouse in the 1920's. Installation of this facility has helped to maintain the economy of this community down to the present day.

FINDINGS

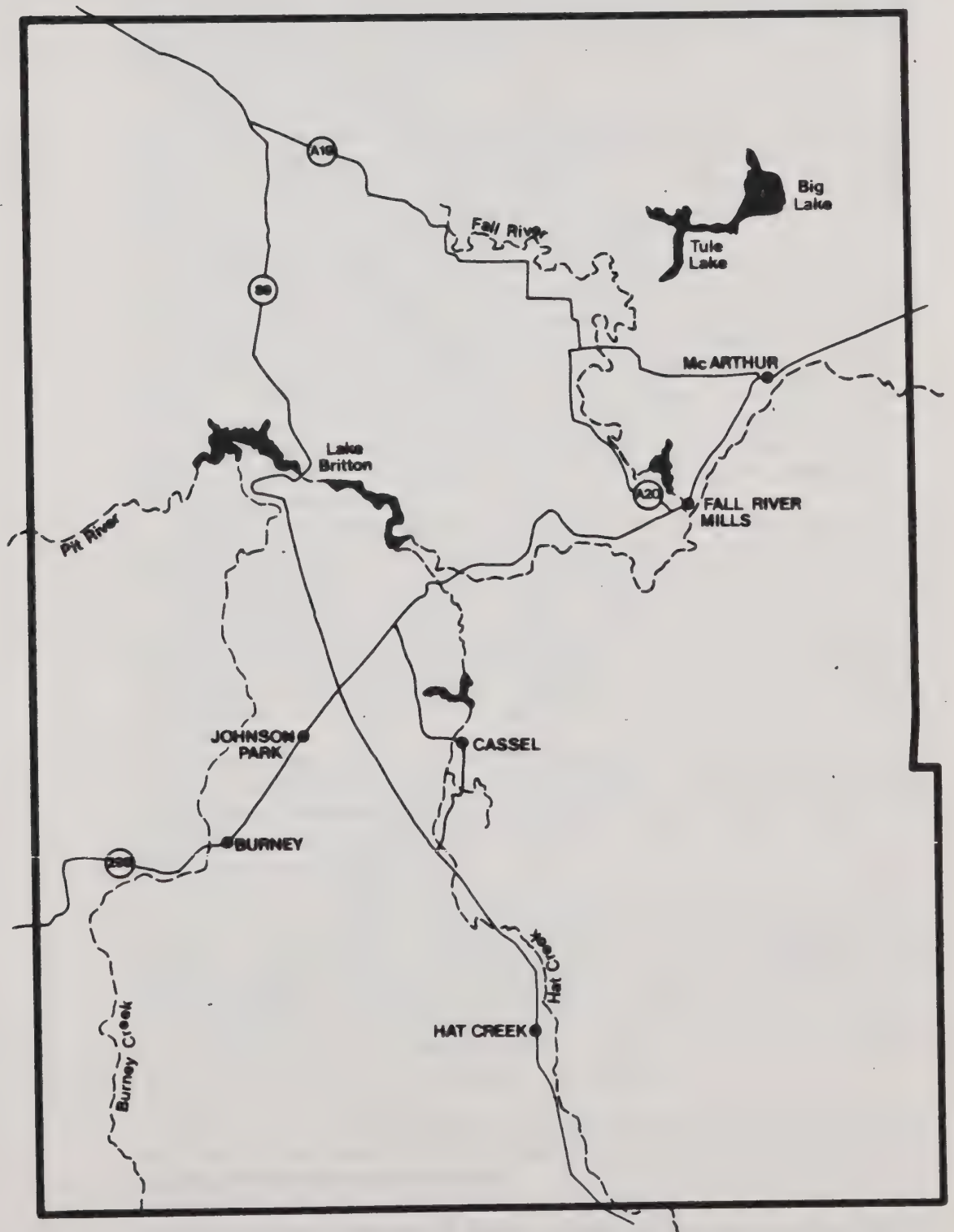
The plan for this community orients the commercial area around the existing service center. Approximately 100 acres of Rural Residential A are sited along Big Bend Road and Hagen Flat Road to take advantage of existing road access and to protect the Pit River riparian corridor. Development in the vicinity of Hagen Flat Road will be on or in the vicinity of existing landslides, thus requiring a geotechnical investigation.

Water is obtained from individual wells and springs. A small private company furnishes spring water to several rental cabins and to the Forest Service Fire Station. Surface water sources are exposed to contamination and due to geological characteristics, many wells are subject to contamination by septic tank effluent. Wastewater treatment is provided by individual, on-site systems.

POLICIES AND
IMPLEMENTATION

- a. Development of Big Bend shall conform to the Community Development Element and the land use pattern and circulation system shown on the community plan map.
Implementation: Zoning ordinance, subdivision map review.
- b. Development in the vicinity of Hagen Flat Road shall conform to Countywide policy SG-b.

North East Shasta County



BURNEY TOWN CENTER

HISTORY

Burney

The town of Burney was settled in 1858 by Sam Burney under the original name of Burney Valley. An abundance of cheap land during the settlement wave of the late 1850's and 1860's caused the town to grow rapidly well into the 1880's. The name of the town was shortened to Burney in 1894.

During the early part of this century, Burney was a small community compared with neighboring communities in the northeast region of the County. In 1920, the town was inhabited by only 50 persons. This situation changed rapidly in the 1930's with the growth of the lumber and tourist industries, the latter made possible by the construction of a modern highway to Redding.

In 1936 Carl Phelps began what would subsequently become the Burney Lumber Company. Four years later the Scott Lumber Company, also near Burney, was completed. By the early 40's, this growth would swing the population pendulum to Burney. Inhabited by about fifty people in 1920, this town tripled in the next three decades. Within eighteen miles of Burney lay five PG&E hydro-electric plants employing ninety men, as well as lumber concerns with an annual payroll of \$1,116,000. Sports and recreation, accelerated by the beauty of Burney Falls and other nearby scenic areas, also brought settlement.

During the 50's Burney continued to lead the growth of northeastern Shasta County. Lumber continued to expand with the building of the Lorenz Lumber Company near Burney and the C & P Lumber Company at Goose Valley. Two years later the Scott concern added a fertimulch plant. In addition, a railroad track was completed in the 50's between McCloud and Burney. Subdivisions, trailer parks, and new business buildings were signs of a 3,350 person population. In addition, a new high school was built in Burney in the late 60's.

Toward the end of the 1970's, inflation and high interest rates began to adversely affect the timber industry in general and specifically the economic base of Burney. At the end of 1979 the Publisher's Mill in Burney closed and other mills experienced decreases in production.

Partly in response to these events, and partly out of a general concern for the future of their community, citizens formed the Burney Area Review Committee (BARC). The Suggestions to Specific Plan authored by BARC was the primary reference used in the preparation of this community plan. Also consulted were the CPAC Sketch and Rural Community Plan Comment Form, minutes of a special BARC meeting held on April 23, 1981, and various letters and petitions from community residents.

Johnson Park

Johnson Park is a community of much more recent origin. It is a residential community whose inhabitants enjoy excellent access to nearby recreation opportunities.

Burney and Johnson Park are addressed within the same community plan because of their geographic proximity along Route 299. As will be seen in the findings below, the future development of these two communities may bring them even closer together.

FINDINGS

Public Safety

The major public safety concern is the flooding of Burney Creek. Portions of the town center and most of the area north of the town lie within the 100 year floodplain. The California Department of Water Resources is updating the existing Federal Insurance Administration (FIA) generalized floodplain mapping for the area. Once this mapping is finalized, it should be compared with the community plan. The important point is that community expansion to the north of Burney is constrained by this flood hazard.

Closely related to flooding are the problems associated with stormwater drainage in that area of Burney to the east and south of the Cornaz-Estes Irrigation Ditch. Until a recent successful lawsuit against the owners of this ditch, it served with their tacit approval as the major drainage channel for this area. Subsequent to this litigation, new development which would have otherwise used the ditch has been required to install holding ponds drained by percolation. Technical problems caused by a high groundwater table, and maintenance problems caused by Proposition 13 taxing limitations, have made this a less than satisfactory solution. It appears unlikely that future development in this area of Burney will be able to rely on holding ponds for drainage. The community plan anticipates that future major development in Burney will, however, occur in this area. It is obvious that a comprehensive solution of the drainage problem is required. Policies directed to this end are contained in the community plan.

Generalized mapping of Quaternary faults in Shasta County shows two faults running north to south through or in the vicinity of Burney. Neither of these faults has been designated as Special Studies Zones by the California Division of Mines and Geology and there are no restrictions on construction because of them. They are noted for informational purposes regarding the application of Countywide policy SG-a.

Resources

Burney/Johnson Park are located in an area which is rich in resources. There are two resources with direct impact on the community and are therefore specially noted. They are Burney Creek and timberlands.

The BARC Suggestions to Specific Plan notes that Burney's most appreciated natural recreational asset is Burney Creek, enjoyed for its ready access, good fishing, and scenic values. The resource values of Burney Creek should be recognized both by future development and by the existing development, which has not always paid adequate attention to its community design opportunities. The community plan contains policies directed toward these concerns.

Johnson Park is surrounded on four sides by timberlands under either private or federal ownership. All privately owned timberland with the exception of lands to the southwest along Route 299, are in Timber Preserve Zones. With one exception, Burney is surrounded on the west, south, and east by privately owned lands in Timber Preserve Zones. Again, lands to the northeast along Route 299 are not in Timber Preserve Zones. The importance of this timber resource to the economy of the community cannot be over-emphasized. At the same time, the long-term growth of the community may require that some timberlands be converted to urban uses. Discussion of this issue continues below.

Community Development The estimated 1980 populations of Burney and Johnson Park are 3,800 and 1,018, respectively. The community plan provides for a targeted population increase of 2,270 persons by the year 2,000. In order to accommodate this growth, vacant lands within the community have been classified as Urban and Suburban Residential. Specifically, the community plan provides for the following amounts of land to accommodate new development: Urban Residential - 110 acres, Suburban Residential-220 acres, and Multi-Family Residential - 6 acres.

Growth at these densities will require service by community water and wastewater treatment systems. The implications of growth for the Burney County Water District (CWD) and the Johnson Park Water Company (WC) a private firm, are discussed below.

Burney CWD and Johnson Park WC both pump groundwater from the Burney Creek Valley Groundwater Basin. This basin has not been classified by the State Department of Water Resources as a significant source of groundwater. Currently, the Burney CWD pumps about 850 acre feet of water per year and the Johnson Park WC pumps a lesser amount. The safe yield of the Burney Creek Valley Groundwater Basin is undetermined, but current well yields indicate that this basin will be able to accommodate the projected population growth.

The Burney County Water District wastewater treatment plant has a capacity of .44 million gallons a day (MGD) and a design service population of approximately 4,400. The system currently operates at between 70%-85% capacity, serving approximately 3,800 people. The Burney system was originally designed to have stabilization ponds which percolate into the ground, however, it is percolating into groundwater without adequate filtration and thus the stabilization ponds do not meet new state and federal standards. The Burney County Water District is currently studying expansion and treatment alternatives. There are no water bodies in the area with sufficient dilution potential to allow discharge. Evaporation ponds and land disposal appear to be the most viable at this time. In either case, existing ponds will have to be improved so that they do not percolate. Although all alternatives for capacity expansion of the Burney treatment plant will require major capital investments, it does not appear that future development will be limited by wastewater treatment potential.

The Johnson Park community is currently using only individual septic tanks for treatment. Because of shallow soils and high percolation rates, there has been some contamination of groundwater in this area. It has been suggested that the community eventually connect to the Burney system.¹

The community plan provides that all future development in Burney shall be served by community water supply and wastewater treatment systems, and that all development in Johnson Park shall be served by community water systems. Development in Johnson

¹Jim Pedri, Senior Water Resources Control Engineer, State Regional Water Control Board, telephone conversations.

Park will continue to be served by individual, on-site wastewater systems, but a study should be immediately undertaken investigating the need and feasibility of extending the Burney CWD wastewater system to Johnson Park.

Extending the Burney system to Johnson Park raises the larger issue of determining an appropriate land use pattern along the approximately 1.6 mile undeveloped Route 299 corridor between the two communities. Lands within this corridor are currently used for growing timber, but they are not within a Timber Preserve Zone. From the standpoint of community design, they serve as an open space buffer separating the two areas. Extending a wastewater treatment line along this corridor in order to serve Johnson Park would make its development extremely feasible. In fact, development of this corridor may be the only feasible way to fund extension of the wastewater treatment line.

Taking a long-term view, development within the Route 299 corridor appears to be the logical future growth area once the land supply within the communities, as shown on the community plan map, is exhausted. As noted above, Burney is constrained from developing to the north by flood hazards, and to the west, south, and east by Timber Preserve Zone lands, while Johnson Park is likewise surrounded by Timber Preserve Zone lands. The exception in both cases are lands along the 299 corridor. It may be argued that these lands also should be put in Timber Preserve Zones. However, their existing highway access and future potential for community wastewater and water service argues that they should be developed rather than converting existing Timber Preserve Zone lands for this purpose.

Development of the Route 299 corridor, it must again be noted, is not likely to be required during the next twenty years based on population targets for the two communities. Thus, development of this corridor is not reflected in the community plan. If actual growth exceeds this target, or if a wastewater treatment line is provided in this corridor, the community plan will require revision. Since development of this corridor will raise major community design issues, the community plan contain policies addressing these issues.

As noted in the History section above, economic development is an extremely important community issue. Two sites are being investigated within Burney for possible use as industrial parks to broaden and to diversify the employment base. These sites are the McCloud River Railroad property on the east side of town and the Sierra Pacific property on the west side. A third potential industrial park site has been identified in Johnson Park. All three sites are shown as industrial in the community plan and are addressed by plan policies.

Future economic development will require additional housing opportunities at affordable prices. The community plan provides for higher density residential development, including multi-family, within the community.

Burney and Johnson Park have well-established, centrally located commercial areas. Future commercial development should locate within these areas, as shown on the community plan.

The BARC Suggetions to Specific Plan contains a detailed list of proposed street, right-of-way, and traffic signal improvements with supporting reasons. These improvements are at a level of detail which goes beyond the community plan level. The plan does provide that these improvements be referred to the Public Works Department for review and evaluation for inclusion in the Capital Improvements Program.

The community plan does specify major circulation improvements. In order to improve internal access within Burney, both for traffic flow and emergency access purposes, two collector loop roads should be constructed north and south of Route 299 as shown on the community plan map. As stated, these loop roads are designed to improve internal circulation and not to provide alternatives to travel along Route 299. Through traffic, including tourist travel, would continue to use Route 299 to travel through the community simply because it is the shortest and most direct route. The plan provides similar collector loop roads in Johnson Park to provide for the internal circulation required by future growth.

Burney/Johnson Park are within the Fall River Joint Unified School District, recently classified as overcrowded by the Board of Supervisors pursuant to Section 65970 of the Government Code. Future growth of the community will exacerbate this problem, especially at the elementary levels.

The community plan provides for the development of a park located on the floodplain area in the west central portion of Burney south of Route 299.

POLICIES AND IMPLEMENTATION

- a. Shasta County shall undertake a comprehensive drainage study of the Burney area directed toward identifying a specific program of capital improvements and land acquisition. This study shall explore in detail all available government funding sources and prepare detailed estimates of assessment district options. This study shall also specify interim control measures, including design standards for new development and short-term, low cost improvements.
Implementation: County funds study.
- b. All development along Burney Creek shall conform to Countywide policies FW-f, OSR-h, and CD-o.
Implementation: Site plan review.
- c. Development of Burney/Johnson Park shall conform to the Community Development Element and the land use pattern and circulation system shown on the community plan map.
Implementation: Zoning ordinance, subdivision review.
- d. Future development shall be provided with community water by the Burney County Water District and the Johnson Park Water Company, as appropriate.
Implementation: Burney CWD and Johnson Park WC increase amounts of water drawn from groundwater basin.
- e. The capacity of the Burney County Water District Wastewater Treatment System shall be expanded to

accommodate the projected population growth.

Implementation: Burney CWD increases system capacity in accordance with its plan.

- f. Shasta County shall undertake a study investigating the need for a community wastewater treatment system in Johnson Park and feasibility of extending the Burney CWD system to this area. In the interim, development in Johnson Park shall be served by individual, on-site systems.

Implementation: County funds study.

- g. Development of the Route 299 corridor between Burney and Johnson Park shall not occur until it is no longer possible to provide a twenty year land supply within the boundaries of the communities as shown on the community plan map. Development of this corridor shall be designed to maintain a continuous, undeveloped, open space buffer along both sides of this corridor in order to essentially preserve its natural character. The depth of this buffer may vary, but in no case shall it be less than 150 feet. The buffer may be used for recreational trails. The principal use of this corridor shall be residential, and circulation access points to Route 299 shall be limited to collector streets located at 300-500 foot intervals. Density transfer shall be used to shift development from the open space buffer to residential areas.

Implementation: Specific plan prepared by Planning Department.

- h. Industrial lands as shown on the community plan map shall be reserved for this use. Future Capital Improvement Programs within the community shall consider their relationship to these areas and opportunities to enhance their suitability. Shasta County shall encourage the development of these areas.

Implementation: Zoning ordinance, Capital Improvement Program review.

- i. Circulation improvements listed in the BARC Suggestions to Specific Plan shall be reviewed by the Department of Public Works for inclusion in future County Capital Improvements Programs.

Implementation: Self-explanatory.

- j. Collector loop roads as shown on the community plan map shall be constructed to improve internal circulation and provide for new growth.

Implementation: County requires road construction and dedication where possible; otherwise County funds construction.

- k. School facilities shall be provided to meet the needs of future growth.
Implementation: Fall River Joint Unified School District.
- l. A community park shall be developed in the floodplain area in the west central portion of Burney south of Route 299.
Implementation: Countywide policy SLR-c.

FALL RIVER MILLS/McARTHUR TOWN CENTER

HISTORY

Fall River Mills

Originally named Fall River City, this community dates back to the early 1870's when William Winter, a then famous California stockman and gold seeker, constructed a four-story, turbine-run flour mill in the town area.

Despite the town's isolation from the rest of the County (mail was delivered only once every three weeks) Fall River City was a prosperous community with a population of 250 by 1882. One local newspaper, The Fall River Advocate, described the town as a "... lively and enterprising interior town . . . that abounds in natural advantages and enterprise." Local editorials emphasized the goal to "attract to our resources that which is most needed - attention and capital."

McArthur

Four miles from Fall River Mills, a local grocer named John McArthur planted the first seeds of a community in the 1870's. Acquiring several thousand acres of swamp land, McArthur formed a corporation with his nine children and proceeded to drain the land to prepare it for future development. In 1903, a store and residence (The Old Zumwalt Place) were constructed.

With the hydroelectric developments of the 20's came increased growth into the mountain area. New communities sprang up at the various powerhouse locations, and the older towns felt the stimulation of a population increase. In 1919 the oldest agricultural fair in California was started at McArthur. The high school, by 1926, had grown to eighty-two pupils. In 1934 local papers headlined: "Fire Sweeps Fall River Mills - Loss of \$100,000." However, the town was rebuilt despite the fact that this devastating holocaust had destroyed twenty-four buildings; most of the town's business district.

During the 1940's the Fall River area was comprised principally of large holdings verdant with grains and grasses. From the approximately six billion available feet of fir, cedar, and pine timber in the mountain region came seventy-five million feet of lumber annually. In addition, the Fall River Meat Company in 1940 reported an annual kill of 2,000 beef cattle and 5,000 hogs and lambs, while the local milling concern reportedly exported 100,000 bags of flour per year. Finally, water power from the PG&E plants had achieved a total daily output of 81.5 million horsepower.

By the late 1960's this mountain area, no longer a remote nonparticipant in County affairs, was growing steadily. Its economy based on a variety of stable resources, indicated that the Fall River Region would continue to serve as an important supply center for Shasta County and the rest of the north Valley.

The principal references used in the preparation of the community plan were:

- Fall River Valley Planning Advisory Committee letter of February 26, 1981, and
- Fall River Valley Planning Advisory Committee letter of April 28, 1981.

Fall River Mills and McArthur are addressed within a single community plan because of their geographic proximity and social and economic interdependence.

FINDINGS

Public Safety

The 100 year floodplains of the Pit and Fall Rivers encompass portions of the townsite of Fall River Mills. The boundary of the floodplain area has been delineated by a preliminary study by the State Department of Water Resources conducted for the Federal Insurance Administration. This boundary should be reviewed once the study is finalized. Land use within the floodplain area is addressed by the Countywide Flood Protection Element.

Generalized mapping of Quaternary faults in Shasta County shows a fault running north to south through or in the vicinity of the west side of the town site of Fall River Mills. This fault has not been designated as a Special Studies Zone by the California Division of Mines and Geology and there are no restrictions on construction because of this fault. It is noted for informational purposes regarding the application of Countywide policy SG-a.

Resources

"The Fall River Valley, which encompasses the largest single spring system in the continental United States, is a unique and wonderful piece of geography."¹ At the town site of Fall River Mills, the Fall River joins with the Pit River. While the Fall and Pit Rivers are major visible features of the landscape outside the townsite, within the community they are largely inaccessible and virtually ignored. The future development of the community should recognize the existence of these water resources and make them part of the design of the development rather than ignoring them.

Fall River Mills and McArthur are surrounded by valuable agricultural lands. In many instances, urban/suburban development is directly adjacent to agricultural lands, and these two land use patterns are not separated by natural or manmade barriers. This is especially true along the north side of the Route 299 corridor between Fall River Mills and McArthur. In the absence of specific policies designed to confine growth within a well-defined corridor and make the most efficient use of lands within the corridor, adjacent agricultural lands could be easily lost to a sprawling urban development pattern. Development pressures will become especially intense if the Fall River Mills wastewater treatment system is extended along Route 299 to serve McArthur. The community plan

¹Fall River Valley Planning Advisory Committee letter of February 26, 1981.

contains policies designed to utilize the benefits of highway access, and possibly future wastewater treatment availability which exists along the corridor, while at the same time protecting agricultural lands.

Community Development

The estimated 1980 populations of Fall River Mills and McArthur are 762 and 369, respectively. The community plan projects a targeted population increase of 1,830 persons by the year 2000. The plan for this community anticipates that major development will occur at suburban densities to the southwest of the older urban core of Fall River Mills. Approximately 130 acres of Suburban Residential land is provided for this purpose. This expansion would require the development of a new community commercial center located on the south side of Route 299. Additionally, development of a loop collector road would also be required. This suburban development, as well as all new developments adjacent to the Pit River, would be subject to plan policies relating to riparian habitat protection, community recreation access, and view protection.

The plan provides for development at Rural Residential A densities to the west of this suburban development. Policies are provided in the plan to encourage maximum clustering of housing units and the development of circulation and other service improvements in accordance with an overall specific plan so that this area may ultimately be developed at suburban densities. Rural Residential A lands are also provided to the south and southeast of Fall River Mills. In total, approximately 1360 acres of lands classified Rural Residential A are provided in the vicinity of this community.

Fall River Mills is linked to the community of McArthur by a 3 1/2 mile stretch of Route 299. Approximately half of this distance is devoted to mixed commercial, residential, and public uses while the remainder is relatively undeveloped and is under agricultural production. The plan provides that a band of approximately 200 acres of Rural Residential A lands be located along this undeveloped portion of the corridor. Bluffs along the west bank of the Pit River will provide a natural barrier to eastward expansion of this residential development. The plan provides policies designed to limit westward expansion of residential uses into the adjacent agricultural lands. The plan also includes policies to encourage clustering of units so that common access roads to Route 299 will minimize the traffic impacts of this development.

The community of McArthur is characterized by a very compact development pattern of urban densities surrounding a linear commercial service core along Route 299. The plan continues this compact development pattern by providing 70 acres of lands classified Suburban Residential to the west of McArthur. A new collector road would be required to serve this development.

Growth of the community will have implications for water supply, wastewater treatment, and schools. These implications are discussed below.

The Fall River Mills Community Service District (CSD) serves both Fall River Mills and McArthur. At present the CSD pumps approximately 220 acre feet per year from the Fall River Valley Groundwater Basin, which also supplies agricultural irrigation

water. In 1979, approximately 20,700 acre feet of irrigation water were pumped from this groundwater basin, identified by the State Department of Water Resources as a significant source of groundwater. Although the safe yield of the Fall River Valley Groundwater Basin is unknown, current yields indicate that this basin will be able to accommodate the projected growth.

Current flows at the Fall River Mills CSD plant are at the capacity level of .08 MGD. The system has limited potential to expand its treatment capacity at the current site. Existing ponds are at or near capacity, and Pacific Gas and Electric owns the lands surrounding the treatment plant. Major expansion of the treatment capacity will require finding a new site for additional evaporation ponds or investment in an alternative treatment method utilizing discharge to the Pit River or land application. If the new sites for ponds are purchased or an alternative discharge system is used, then the treatment capacity of the Fall River Mills CSD plant will not be a limiting factor on development. The McArthur community currently uses only septic systems, however, there have been system failures in this community. It has been recommended that McArthur connect to the Fall River Mills CSD system sometime in the future.¹

The community plan provides that all future development in Fall River Mills will be served by community water supply and wastewater treatment systems, and development in McArthur be served by community water and at least for the immediate future, by individual on-site septic systems. This plan will require expansion of the Fall River Mills CSD. A study should be undertaken investigating the need and feasibility of extending the CSD wastewater treatment system to McArthur along Route 299. As noted above, this extension would increase development pressures on agricultural lands on the north side of this corridor. The community plan contains policies intended to clearly define the allowable development of these lands.

Fall River Mills and McArthur are within the Fall River Joint Unified School District, recently classified as overcrowded by the Board of Supervisors pursuant to Section 65970 of the Government Code. Future growth of the community will increase this problem.

POLICIES AND IMPLEMENTATION

- a. Development of Fall River Mills/McArthur shall conform to the Community Development Element and to the land use pattern and circulation system shown on the community plan map.
Implementation: Zoning ordinance and subdivision map review.
- b. All development along the Fall and Pit Rivers shall conform to Countywide policies FW-f, OSR-h, and CD-o.
Implementation: Site plan review.

¹Jim Pedri, Senior Water Resources Control Engineer, State Regional Water Quality Control Board, telephone conversation.

- c. Development within Fall River Mills shall take advantage of the opportunities presented by the Fall and Pit Rivers for community recreation.
Implementation: Site plan review.
- d. Development of the area to the west of Fall River Mills designated Rural Residential A shall be accomplished according to a specific plan providing for clustering of housing units so this area may ultimately be developed at suburban densities and providing for an overall circulation system.
Implementation: Preparation of specific plan by developer.
- e. Rural Residential A development along the north side of Route 299 between Fall River Mills and McArthur shall occur only within the area designated on the community plan map. Development shall be designed so that housing units utilize common collector roads located at intervals of no less than 1,000 feet.
Implementation: Zoning ordinance, subdivision map review.
- f. Future development shall be provided with community water by the Fall River Mills CSD.
Implementation: Fall River Mills CSD increases amount of groundwater withdrawal and enters into agreements with developers to expand service.
- g. The capacity of the Fall River Mills CSD wastewater treatment system shall be expanded to accommodate the projected population growth of Fall River Mills.
- h. Shasta County shall undertake a study investigating the need for a community wastewater treatment system in McArthur and feasibility of extending the Fall River Mills CSD system to this area. In the interim, development in McArthur shall be served by individual on-site systems.
Implementation: County funds study.
- i. School facilities shall be provided to meet the needs of future growth.
Implementation: Fall River Joint Unified School District.

HAT CREEK RURAL COMMUNITY CENTER

HISTORY

The Hat Creek community lies approximately 14 miles southwest of the Fall River Valley. The Hat Creek Valley was first settled in 1862 by John Walker. In early settlement days, the Hat Creek area was a stopping point for immigrants traveling along the east branch of the California-Oregon Trail. By the 1880's, the area was well known for its excellent stock raising, and the presence of a state established fish hatchery on Hat Creek. Today, the Hat Creek Rural Community Center provides both tourist services and services to the residents of the Valley.

The principal reference used in the preparation of the community plan was the CPAC Sketch and Rural Community Plan Comment Form.

FINDINGS

The plan for this community is intended to concentrate future commercial growth in the vicinity of the intersections of Route 89 with the Doty Road collector loop. Surrounding lands are classified as Rural Residential A to provide approximately 240 acres required for a population growth of about 150 persons during the planning period. The plan includes policies governing the siting of residential development along Route 89 to protect views and to continue the open feeling of the area. Also included are policies addressing development adjacent to Hat Creek in order to protect riparian habitat and provide recreation access for community residents.

The Hat Creek Valley overlays younger volcanics. Recent low well levels in the Hat Creek area indicate there may be insufficient groundwater in that area. The amount of development which could be supported by groundwater is questionable, and should be closely monitored by a voluntary well monitoring program jointly supervised by community residents, Shasta County, and the Department of Water Resources.

POLICIES AND IMPLEMENTATION

- a. Development of Hat Creek shall conform to the Community Development Element and to the land use pattern and circulation system shown on the community plan map.
Implementation: Zoning ordinance and subdivision map review.
- b. Development along Hat Creek shall conform to Countywide policies FW-f, OSR-h, and CD-o.
Implementation: Site plan review.
- c. Development along Route 89 shall conform to Countywide policy SH-a.
Implementation: Scenic Highway Element.
- d. Community residents, in cooperation with Shasta County and the California Department of Water Resources, should establish a voluntary community well monitoring program.
Implementation: Shasta County and community residents.

CASSEL RURAL COMMUNITY CENTER

HISTORY

The Rural Community Center of Cassel began during the land boom era of the 1880's. Originally, Cassel served as a collection point on the Winter's Toll Road which ran between Burney and Fall River Mills.

FINDINGS

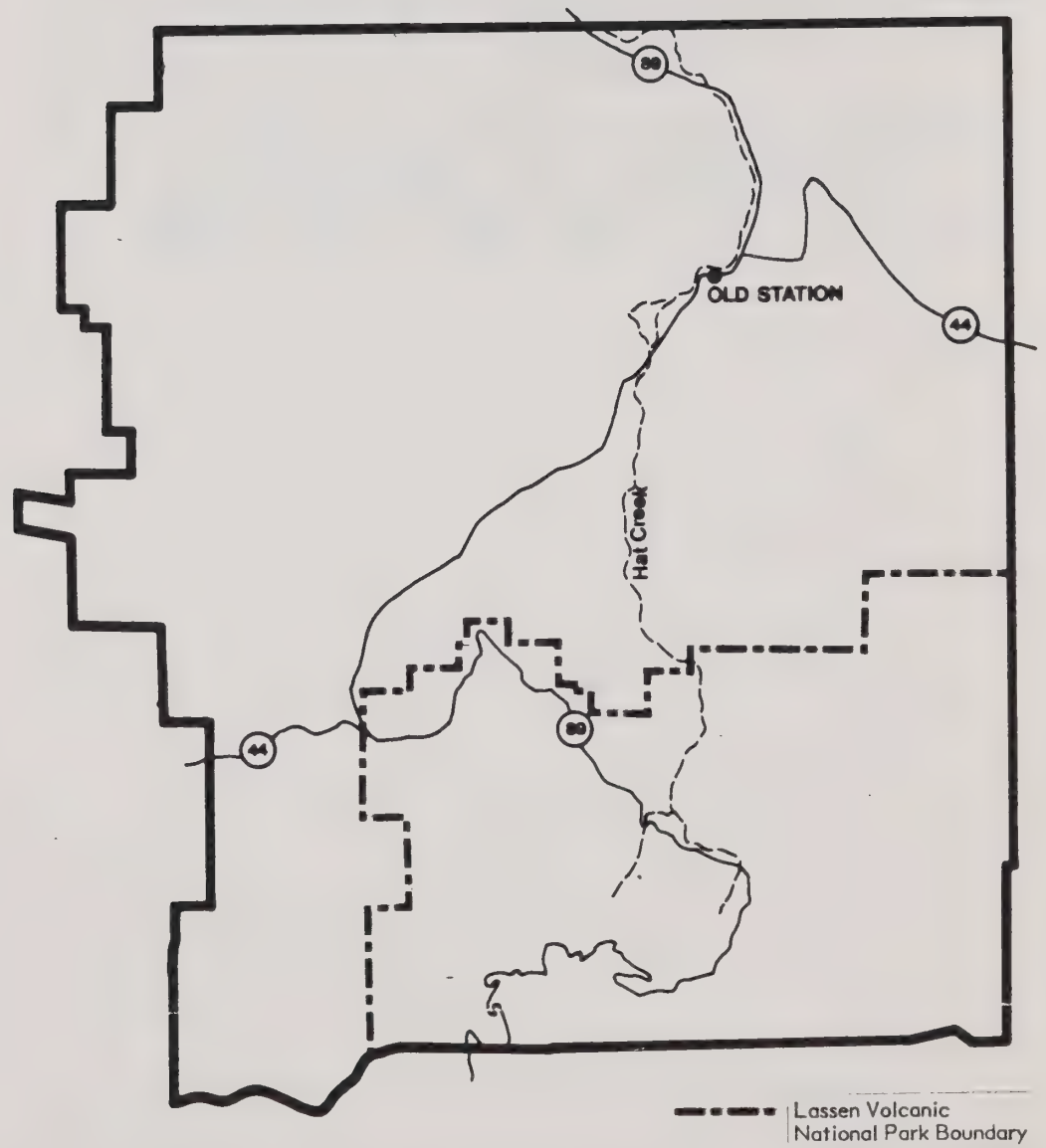
The Community of Cassel is traversed by Hat Creek. Located immediately to the south of the Community is the confluence of Rising River and Hat Creek. These watercourses are major natural resources of the community.

Cassel is served by on-site water supply and wastewater treatment systems. Principal access is by Routes 89 and 299 via Cassel Road.

POLICIES AND
IMPLEMENTATION

- a. Development of Cassel shall conform to the Community Development Element and to the land use pattern and circulation system shown on the community plan map.
Implementation: Zoning ordinance and subdivision map review.
- b. Development along Hat Creek and Rising River shall conform to Countywide policies FW-f, OSR-h, and CD-o.
Implementation: Site plan review.

Lassen



OLD STATION RURAL COMMUNITY CENTER

FINDINGS

In addition to its local serving function, the Rural Community Center located at Old Station (North) also serves tourists using Lassen Volcanic National Park and other surrounding public and private recreation facilities. Similar dual functions are performed by Old Station (South). Rural Residential A is applied to these areas to permit low density residential development.

POLICIES AND IMPLEMENTATION

- a. Development of Old Station shall conform to the Community Development Element and to the land use pattern and circulation system shown on the community plan map.
Implementation: Zoning ordinance and subdivision map review.

Eastern Forest



SHINGLETOWN RURAL COMMUNITY CENTER

HISTORY

As a popular rest stop for travelers along the Noble Pass Immigrant Trail, it was not long before the timber potential of the Shingletown area was realized. In 1852, the first of many lumber mills in Shingletown began operation. These were the McCumber and Rudolph Klotz Mills. Establishment of the "Old Dry Mill" followed in 1855. By 1899, 4,000,000 board feet of sugar and yellow pine were produced and shipped annually from the Shingletown area.

In the early years of the 20th century, T. B. Walker, the "Lumber King" purchased a majority of the large timberland holdings around Shingletown. As a result, lumber production was drastically reduced and by 1915, the once thriving community had become a ghost town.

By the end of WWII, however, the Red River Company (a Walker Company) sold much of the lands around Shingletown back to smaller private interests and timbering once again took hold. At the present time, Shingletown remains a headquarters for timber activities and provides local residents with the opportunity to enjoy the rural lifestyle popular in Shasta County.

The primary community reference used in the preparation of this plan was the CPAC Sketch and Rural Community Plan Comment Form.

FINDINGS

The major planning issues facing this community are water supply and wastewater treatment and their implications for its future growth. In 1976, the estimated population of the community was 704 persons. Unfortunately, the community comprises portions of 3 census enumerations districts so it is impossible to obtain an accurate 1980 population count. It is estimated that the 1980 population was approximately 900 persons.

Shingletown presently obtains its water from individual wells or surface diversions. This community is not served by any identified groundwater basin. It obtains its groundwater from Quaternary volcanics that are very thin and overlie Tuscan and Chico formations, both very poor water producers.

While diversion of surface flows on creeks in the Eastern Forest Planning Area may be possible using state appropriative and riparian water rights or Shasta County Water Agency allocation, it is important to realize that Pacific Gas and Electric already operates four power plants on Battle Creek. Thus, any water development upstream of these plants would have to be operated to avoid infringement upon Pacific Gas and Electric's water rights.

Shingletown presently uses individual, on-site wastewater treatment systems. Soils in this area are generally severely limited regarding this type of treatment system.

Residents of the community have stated that a reasonable growth rate for the community would be approximately 100 units per year for the 20 year planning period. Assuming 2.66 persons per dwelling unit (the 1980 Countywide average), this would result in an additional 5,320 persons or a year 2000 population of about 6,220 persons. Residents of the community have also expressed support for light industrial growth to provide for local employment opportunities.

Based on the best evidence currently available, it does not appear that this growth could be sustained by continued reliance on the present water supply and wastewater treatment systems. Further, it does not appear to be likely or feasible that community water supply and wastewater treatment system could be developed within a community.

The expansion of this community is shaped by the proximity of timberlands and Route 44. The linear shape of this community is continued east and west on either side of the mixed use core. Additional expansion southeast along Ponderosa Road is also planned. The man-made lake south of the commercial area provides an amenity which can be used by the residential development.

POLICIES AND IMPLEMENTATION

- a. Development of Shingletown shall conform to the Community Development Element and to the land use pattern and circulation system shown on the community plan map.
Implementation: Zoning ordinance and subdivision map review.

Eastern Upland



MILLVILLE RURAL COMMUNITY CENTER

HISTORY

Begun in 1853 by S. E. and N. T. Stoud, this community was originally called Buncombe Mills after the local flour mill, but the name was changed to Millville by popular demand in 1857. In its early days, Millville was a very politically active and vocal Shasta County community. During the 1860's, town residents proposed that Shasta County be divided into two sections, with the western portion (which included Millville) to be named Reading. This proposal, however, was never accepted. In 1881, Millville competed with the towns of Shasta and Redding for possession of the County seat, proclaiming its age and central location as justification for the designation. This bid also failed.

Despite these disappointments, Millville remained an active and sizeable town. By 1887 the population had grown to 500 persons, and supported a number of business establishments including its own newspaper (the East Side Times), a lecture hall and a literary society.

Since the turn of the century, life in Millville has quieted considerably, and today local residents enjoy a peaceful, community atmosphere.

The primary references used in the preparation of the community plan were:

- Millville Community Planning Unit, an Amendment to the General Plan, June, 1977, and
- Millville Planning Advisory Committee letter of May 25, 1981.

FINDINGS

Community residents have expressed support of 5 acre minimum lot sizes and the zoning pattern established for the community in 1980. These desires are reflected in the community plan.

Millville is presently served by individual, on-site water supply and wastewater treatment systems. Community residents want to continue this situation and not develop community systems.

In general, the community supports slow growth in order to protect the rural character of the community and to avoid overcrowding of schools.

POLICIES AND IMPLEMENTATION

- a. Development of Millville shall conform to the Community Development Element and to the land use pattern and circulation system shown on the community plan map.
Implementation: Zoning ordinance and subdivision map review.
- b. Minimum parcel sizes in Millville shall be 5 acres and the zoning plan shall conform to that adopted for the community in 1980.
Implementation: Zoning ordinance.
- c. Millville shall continue to be served by individual, on-site water supply and wastewater treatment systems.
Implementation: Zoning ordinance, subdivision map review.

OAK RUN RURAL COMMUNITY CENTER

HISTORY

Although not officially established until 1877, the Oak Run Community originated as a quartz mining center in the early 1860's. Known initially as the Dry Creek mining area, the major activity at Oak Run gradually shifted to agriculture in the late 1860's and has remained so up to the present day.

FINDINGS

Oak Run is surrounded on two sides by grazing lands under Williamson Act contracts. Oak Run and other creeks drain a swampy area located within the community. The sketch plan for this community calls for the location of a mixed use center at the bend in Oak Run Road. The surrounding area is classified as Rural Residential A.

POLICIES AND IMPLEMENTATION

- a. Development of Oak Run shall conform to the Community Development Element and to the land use pattern and circulation system shown on the community plan map.
Implementation: Zoning ordinance and subdivision map review.

WHITMORE RURAL COMMUNITY CENTER

HISTORY

Originally named Tamarac, this Shasta County community was started by a German immigrant named Simon Whitmore in 1863. Initially a freight stop along the Redding-Burney Road, Whitmore grew significantly in the early 1880's with the immigration of German Lutheran settlers known as the Eudora Colony. During this era the colony developed into a substantial community and supported a blacksmith shop, hotel, post office, school, and a Lutheran Church.

By 1900 Whitmore was a well known summer resort area even though the primary economic activity had always been agriculture. Principal crops in the Whitmore region, past and present, include potatoes, beans, apples and wheat. To this day, Whitmore continues to offer a rustic living environment for both those who choose to work the land and for those who work in the nearby urban areas to the west.

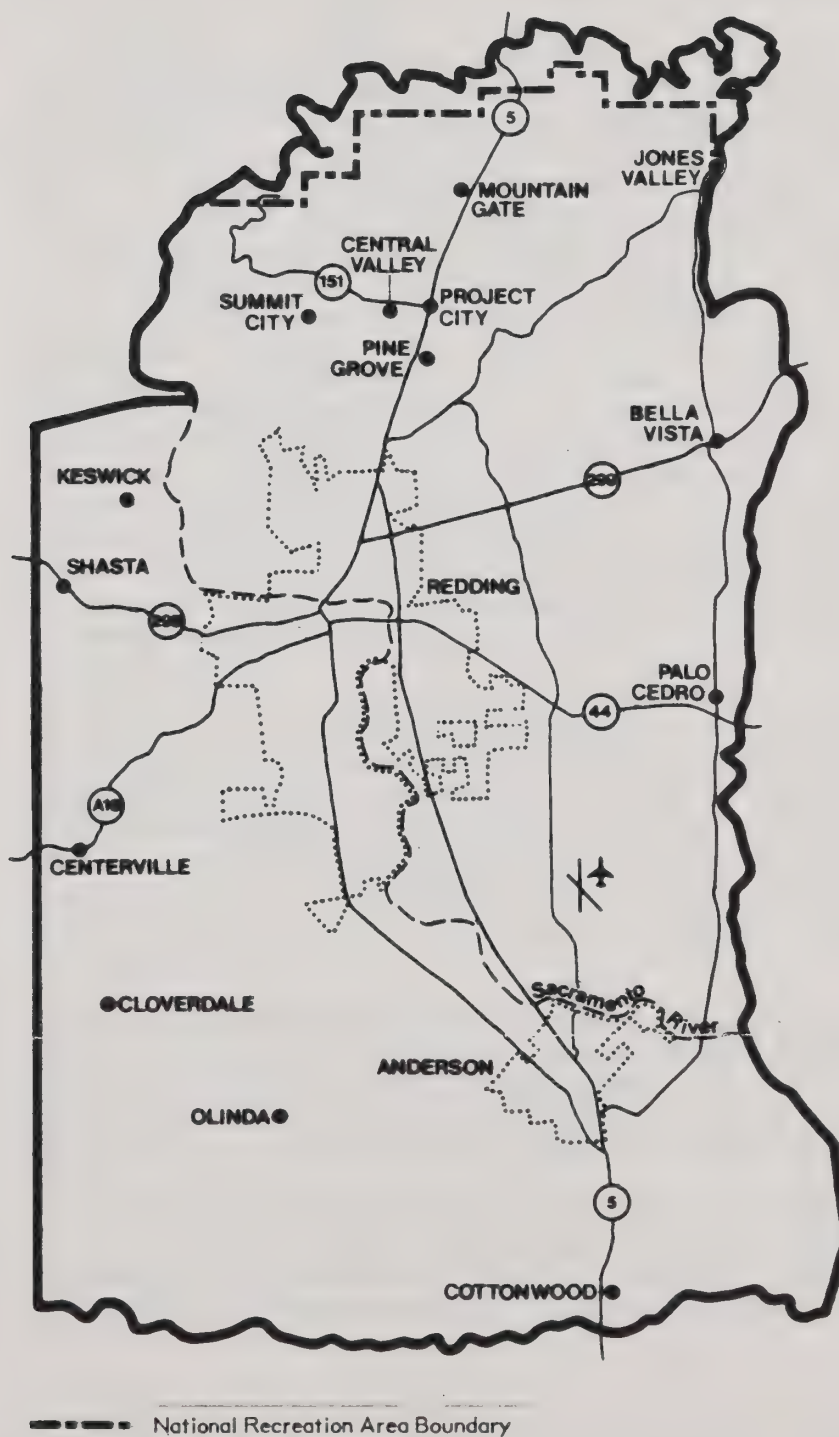
FINDINGS

This community is located on the fringe of the timberlands located in the Eastern Forest Planning Area and is surrounded by the Whitmore-Oak Run Critical Wildlife Zone. These factors define the potential expansion area of this community. The commercial service area is located along Whitmore Road and is surrounded by Rural Residential A lands.

POLICIES AND IMPLEMENTATION

- a. Development of Whitmore shall conform to the Community Development Element and to the land use pattern and circulation system shown on the community plan map.
Implementation: Zoning ordinance and subdivision map review.

South Central Region



ANDERSON URBAN CENTER

INTRODUCTION

The Anderson Urban Center comprises the incorporated limits of Anderson and unincorporated areas adjacent to the City. The purpose of this discussion is to address the relationship of Anderson to the SCR planning area and to establish policies for unincorporated lands adjacent to Anderson.

At present the City of Anderson has no formally adopted planning area which encompasses lands beyond its corporate limits. It is anticipated that a planning area will be defined as part of the current revision of the Anderson General Plan.¹ Once this planning area is established, unincorporated lands within the City's Planning Area must be the subject of interjurisdictional City-County planning resulting in mutually consistent plans and policies. Interjurisdictional planning must pay particular attention to the future annexation of unincorporated areas. As noted in the Community Development Element, cities are the best providers of services to development requiring urban services, such as community water supply and wastewater treatment. In the following discussion of lands adjacent to the incorporated limits of Anderson, the level of development designated for these areas is used as the criterion for recommendations regarding future annexation. Lands designated for urban or suburban residential development and high density commercial and industrial development are recommended for annexation. These recommendations must be regarded as preliminary and subject to further evaluation regarding timing and fiscal implications, as discussed below.

Interjurisdictional planning must also consider the timing of annexation. As noted in the Community Development Element, annexation should occur prior to urbanization so that the development standards of the annexing entity may be initially applied. Finally, interjurisdictional planning must consider the fiscal implications of annexation, especially the distribution of tax revenues. These are difficult issues which are not easily or quickly resolved, but effective interjurisdictional planning requires that they be addressed.

FINDINGS

Anderson Incorporated Area²

One of two incorporated cities in Shasta County, Anderson is a major center for the wood products manufacturing industry and is an important retail trade center for both southern Shasta and northern Tehama Counties. Beyond these functions, Anderson is a desirable place to live. This quality has been described as follows:

Located in south-central Shasta County, Anderson's image is that of a small homogeneous community situated between the Sacramento River to the east, low lying foothills of oak and manzanita to the west, and dotted by

¹Telephone conversation with Jim Wilbur, Planning Department, City of Anderson, October 14, 1981.

²The Anderson incorporated area is defined here as the corporate limits as of September, 1981.

large oak and shade trees growing among natural creek channels. Anderson's small town way of life quality depends a great deal upon the affinity its residents feels with their scenic surroundings, the relatively small size of the community contributing to a closeness among its citizens, and the way in which the urbanization process can be coordinated and interwoven with the natural attributes of the city's environment.¹

Given its commercial functions and the quality of its living environment, Anderson has and will continue to play a significant role in accommodating the population growth and economic development projected for Shasta County during the next two decades. This role has been characterized as follows:

The growth of Anderson is directly tied to the rapid rate of growth of the south-central Urban Region (SCUR) of Shasta County which extends along the Interstate-5 corridor from Cottonwood to Central Valley. This area receives the majority of the County's new growth because the bulk of new employment opportunities are concentrated in the Redding area, 10 miles north of Anderson, which is a major stopping point of air, rail, and truck transit. Anderson, because of its urban services and large tracts of vacant land is greatly affected by the lure of the SCUR area as people are looking to locate near new job opportunities and/or near the small town quality of life found in Shasta County.²

The continued growth and vitality of Anderson is essential to Shasta County's overall growth and development. Growth, in terms of population, will occur through both the development of lands presently within the City and through the future annexation and development of unincorporated lands. With respect to the former, the County General Plan provides that 3,275 persons or 4% of the 78,000 population growth projected for SCR from 1980 to 2000 will be accommodated within the Anderson area. This amount of growth can probably be accommodated by the City's water supply system which pumps all of its water from the Redding Groundwater Basin. Expansion of the city's wastewater treatment plant, which is currently at capacity, would be required to serve this growth (see Appendix D).

The amount of population growth which actually occurs within the incorporated area may exceed or fall short of the number presented above. The significance of this number is that it establishes a basis for relating population growth to land supply and public service requirements.

¹City of Anderson Planning Department, Land Use and Resources Element - Working Outline, 1979, p. 2.

²Ibid., p. 4.

Population growth will occur through annexation of some unincorporated lands adjacent to the City. The following discussion considers these areas and makes preliminary recommendations on their future incorporation.

East Anderson

This area lies to the east of the city limits and to the west of Deschutes Road. On the north it is bound by the Sacramento River and on the south by Anderson Creek. Most of this area is shown for residential development at Rural Residential A densities (one dwelling unit per 2 to 20 acres). Most of the remainder of the area is designated as Small Scale Cropland/Grazing. A small existing developed area contains suburban residential development. Given the level of development planned for this area, it is recommended that it remain unincorporated.

Airport Road

This area is bound by Route 44 on the north, Stillwater Creek on the East, and the Sacramento River on the south. The northern half of the western boundary is the Redding city limits, while the southern half of this boundary is generally the bluff formed by Churn Creek.

This area includes all of the Airport Specific Plan area with four exceptions - the Knighton Road Interchange, two small triangles of land north of Route 44 and south of the Sacramento River, and some lands on the east side of Stillwater Creek. The General Plan for this specific planning area will ultimately reflect the Specific Plan adopted by Anderson, Redding, and Shasta County.

As shown on the General Plan map, the principal land uses in this area are industrial and office commercial oriented along Airport Road. The remainder of the area is devoted to residential uses. North-south access is provided by Airport Road. East-west access to Interstate 5 is provided by two arterials - Rancho Road and a proposed eastward extension of Knighton Road.

Development of the Airport area as described above would result in a population increase of approximately 7,000 persons. This development would require community water supply and wastewater treatment, provided as specified in the Airport Specific Plan. The incorporation of all or parts of this area should be the subject of future discussions among Anderson, Redding, and Shasta County.

Southeast Anderson

This area comprises lands generally located south of Anderson Creek and east of Interstate 5. This area is classified as Industrial. Decisions regarding future incorporation of this area should be contingent upon the level of industrial development and the services it requires.

Southwest Anderson

This area is located to the west of Interstate 5 and in the vicinities of Telephone Gulch, Olinda Creek, and Anderson Creek adjacent to the city limits. Recently, Anderson annexed 600 acres in this area and this site is anticipated as the major expansion area of the City. The remainder of this area is classified as Rural Residential B (one dwelling unit per 40-80 acres). It is recommended that unincorporated lands in this area so remain for at least the duration of the planning period (1981-2000).

Route 273

This area is the section of Route 273 linking Redding and Anderson. The area northeast of Route 273 is classified as industrial, while the area to the southwest is classified as commercial backed by residential development at urban and suburban densities.

Presently this area is not served by community water supply and wastewater treatment systems. Problems have been experienced in this area with on-site wastewater treatment systems. The cause of these problems is attributed to high groundwater. Development of this area as designated by the Plan will require community water and wastewater systems provided by the Cities of Anderson and Redding. It is anticipated that all of this area will be annexed by these two cities.

POLICIES AND IMPLEMENTATION

Anderson Incorporated Area

- a. Shasta County and the City of Anderson shall jointly plan for unincorporated areas within the Anderson Planning Area, as ultimately established by the City. Joint planning shall establish policies regarding the future annexation of unincorporated areas, including the timing of annexation and its fiscal implication.

Implementation: Shasta County and Anderson enter into joint planning agreement.

East Anderson

- b. The Shasta County General Plan recognizes that a portion of the population growth anticipated during the period 1981 to 2000 for the SCR Planning Area will be accommodated within the incorporated limits of Anderson as they existed in September 1981.

Implementation: Community Development element.

Airport Road

- c. Development of East Anderson shall conform to the Community Development element and the land use pattern and circulation system shown on the Community Plan map.

Implementation: Shasta County Zoning Ordinance, subdivision map review.

Southeast Anderson

- d. Development of the Airport Road area shall conform to the Airport Area Specific Plan adopted by Shasta County and the Cities of Anderson and Redding.

Implementation: Adoption of Airport Specific Plan.

Southwest Anderson

- e. Development of Southeast Anderson shall conform to the Community Development element and the land use pattern and circulation system shown on the Community Plan map. Annexation of this area shall depend on the level of services required by the industrial development of this area.

Implementation: Shasta County Zoning Ordinance, subdivision map review.

Route 273

- f. Development of Southwest Anderson shall conform to the Community Development element and the land use pattern and circulation system shown on the Community Plan map.

Implementation: Zoning Ordinance, subdivision map review.

- g. Development of this area shall conform to a plan jointly

prepared and adopted by Shasta County, Anderson, and Redding in anticipation of the ultimate annexation of this area.

Implementation: Joint planning agreement.

REDDING URBAN CENTER

INTRODUCTION

The Redding Urban Center, as defined here, includes the incorporated limits of the city plus lands adjacent to the incorporated limits which are not located within a town or rural community center. The purpose of the following discussion is twofold. One, it defines the relationship of Redding, as an incorporated city, to growth in the South Central Region. Two, it establishes policies for unincorporated lands adjacent to the city, most of which fall within the Planning Area defined by Redding.

As has been stated many times throughout the Plan, unincorporated lands within the City's Planning Area must be the subject of interjurisdictional planning resulting in mutually consistent plans and policies. Interjurisdictional planning must pay particular attention to the future annexation of unincorporated areas. As noted in the Community Development element, cities are the best providers of services to development requiring urban services, such as community water supply and wastewater treatment. In the following discussion of lands adjacent to the incorporated limits of Redding, the level of development designated for these areas is used as the criterion for recommendations regarding future annexation. Lands designated for urban or suburban residential development and high density commercial and industrial development are recommended for annexation. These recommendations must be regarded as preliminary and subject to further evaluation regarding timing and fiscal implications, as discussed below.

Interjurisdictional planning must also consider the timing of annexation. As noted in the Community Development element, annexation should occur prior to urbanization so that the development standards of the annexing entity may be initially applied. Finally, interjurisdictional planning must consider the fiscal implications of annexation, especially the distribution of tax revenues. These are difficult issues which are not easily or quickly resolved, but effective interjurisdictional planning requires that they be addressed.

FINDINGS

Redding - Incorporated Area¹

Redding is the major center of commerce, transportation, and population in the northern Sacramento Valley. Its growth and development has and will continue to influence all of Shasta County, and in particular the planning area known as the South Central Region (SCR). During the past two decades, the growth of the city through annexations has provided a vital and dynamic element for land use planning and decisions in SCR. A description of these annexations is found in Existing Conditions and Issues Report of the Redding Planning Area (1980-2000)²:

In the last twenty years, annexation of populated areas adjacent to Redding has played a major role in increases in both Redding's population and physical size. From 1960 to 1970, the City's population grew from 12,773 to 16,659 (30 percent increase). During that time, the City boundaries expanded by 6.1 square miles. From 1970 to May of 1976 (Special Census), Redding's population increased by 1,535 people to 18,194, or a 9 percent increase. During that same period, its physical size increased through growth and annexation by 164 percent and the City boundaries expanded from 15.2 square miles to 30.5, a 101 percent increase.

The most profound impact, as a result of annexation, took place between June of 1976 and the present, when the population increased from 18,000 to 35,700 (100 percent increase). A major cause of the population growth was the annexation of two areas to Redding: the Cascade area south of Redding, with a population of 4,432 and a size of 4.68 square miles, and the Enterprise area to the east, with a population of 13,067 and a size of five square miles. These areas were annexed in June and December of 1976. The growth rate for the City of Redding excluding annexations has been about 3 to 4 percent per year for the last ten years.

Since the Enterprise Public Utility District annexation in 1976, Redding has grown from 36,000 people and 25.8 square miles, to 44,000 people and 30.5 square miles.

To the above annexations must be added the major annexation recorded September 17, 1981 of 1,892 acres generally located to the east of the City between Routes 299E, 44, and the Old Oregon Trail.

The continued growth and vitality of the City of Redding is essential to the overall well-being of Shasta County. Growth, in terms of population, will occur through both the development of lands presently within the City and through the future annexation and development of unincorporated lands. With respect to the former, the County General Plan provides that 27,270 persons or

¹The Redding incorporated area is defined here as the corporate limits as of September 17, 1981.

²Prepared by the Redding Department of Planning and Community Development, August 1980.

35% of the 78,000 population growth projected for SCR from 1980 to 2000 will be accommodated within the Redding incorporated area. This amount of growth can be accommodated by the City's water supply and wastewater treatment systems, which have existing unused capacities capable of accommodating 45,000 and 32,000 additional persons, respectively (see Appendix D).

It is important to note that the amount of population growth which actually occurs within the incorporated area may exceed or fall short of the number presented above. The significance of this number is that it establishes a basis for relating population growth to land supply and public service requirements.

It is also important to note that population growth will occur through annexation of some unincorporated lands adjacent to the City. The following discussion considers these areas and makes preliminary recommendations on their future incorporation.

North Redding

This area lies between the southern boundary of the Shasta Dam Public Utilities District and the northern boundary of Redding. On the east it is bound by Interstate 5 and on the west by federally owned lands under the jurisdiction of the Bureau of Land Management.

This area is traversed by the Southern Pacific Railroad, and lands within a band approximately 1/2 mile wide to the east of the railroad are classified as industrial. Residential uses at urban densities are shown along Lake Boulevard. The remainder of the area is classified as suburban residential. This development would result in a population growth of approximately 2,000 additional persons by year 2000.

Development of this area assumes incorporation by Redding and the provision by the City of water and wastewater treatment.

Stillwater

This area is located to the east of Interstate 5 and north of Route 299E. The eastern boundary of this area is generally the west fork of Stillwater Creek. To the north this area is bound by the boundaries of Shasta Dam Area Public Utilities District and the Mountain Gate Community Service District.

The plan for this area provides that it will be a future major urban expansion area of the City of Redding. Urban residential densities are shown along major potential transit corridors defined by Old Oregon Trail and Oasis Roads. Community commercial centers are shown at the intersections of Old Oregon Trail with Oasis Road and Oasis Road with Interstate 5. The remainder of the area is shown in suburban residential development.

As described above, the development of the Stillwater area would accommodate a population growth of approximately 18,000 persons. Water service would be provided by the Bella Vista Water District and wastewater treatment would be provided by the SCR area-wide system described in the Wastewater Treatment Element.

Old Oregon Trail

This area is bound on the south by Route 44, on the east by Stillwater Creek, and on the west and north by the Redding city limits. Most of this area is planned for suburban residential development, with a band of urban residential development running north-south along the extension of Shasta View Drive north from

Route 44 to Route 299E. This plan proposes two major changes from the existing land use pattern.

One change concerns the Enterprise Sky Park which is located north of Route 44, to the east of the Shasta View Drive intersection. The plan calls for the long-term conversion of this use to urban residential development upon the expiration of the present leasing arrangement by the Sky Park. The reason for this land use change is to allow development of urban residential land uses along the Shasta View Drive Corridor.

The other change calls for the relocation of various wrecking yards located along Old Alturas Road. There is already an existing conflict between these uses and surrounding residential uses in the area. Further residential development at urban and suburban densities, as provided by the Plan, would intensify these conflicts. It is recommended that these wrecking yards be relocated somewhere in the industrial areas along Airport Road. This relocation should be accomplished with the planning assistance of the County Planning Department.

As described above, the plan for the Old Oregon Trail area provides for a population increase of 6,990 persons. The plan anticipates annexation of this area by Redding. Water service would be jointly provided by the Bella Vista Water District and Redding, and wastewater treatment would be provided by the SCR area-wide system described in the Wastewater Treatment Element.

Airport Road

This area is bound by Route 44 on the north, Stillwater Creek on the East, and the Sacramento River on the south. The northern half of the western boundary is the Redding city limits, while the southern half of this boundary is generally the bluff formed by Churn Creek.

This area includes all of the Airport Specific Plan area with four exceptions - the Knighton Road Interchange, two small triangles of land north of Route 44 and south of the Sacramento River, and some lands on the east side of Stillwater Creek. The General Plan for this specific planning area will ultimately reflect the Specific Plan adopted by Anderson, Redding, and Shasta County.

As shown on the General Plan map, the principal land uses in this area are industrial and office commercial oriented along Airport Road. The remainder of the area is devoted to residential uses. North-south access is provided by Airport Road. East-west access to Interstate 5 is provided by two arterials, Rancho Road and a proposed eastward extension of Knighton Road.

Development of the Airport area as described above would result in a population increase of approximately 7,000 persons. This development would require community water supply and wastewater treatment, provided as specified in the Airport Specific Plan. The incorporation of all or parts of this area should be the subject of future discussions among Anderson, Redding, and Shasta County.

Churn Creek Bottom

The boundaries of this area are formed by the Sacramento River on the west and south, the City of Redding on the north, and the bluff formed by Churn Creek on the east. Churn Creek Bottom contains some of the best agricultural lands in Shasta County. It is also traversed by Interstate 5 and lies directly to the south of Redding. These factors have subjected the area to significant urbanization

pressures which have resulted in the extensive subdivision of much of Churn Creek Bottom.

Recognizing both the agricultural resource values and parcelization pattern of this area, the Plan establishes its use as small-scale agriculture and grazing. In keeping with this designation, Churn Creek Bottom should not be provided with community water supply and wastewater treatment systems, and it should remain unincorporated.

Churn Creek Bottom will be affected by the extension of Knighton Road eastward to Airport Road and by the westward extension of Knighton Road to link with Route 273. Both of the proposed extensions would improve Knighton Road to the level of an arterial. In order to protect Churn Creek Bottom from development pressures generated by these circulation improvements, a policy limiting access to Knighton Road will be established.

Route 273

This area is the section of Route 273 linking Redding and Anderson. The area northeast of Route 273 is classified as industrial, while the area to the southwest is classified as commercial backed by residential development at urban and suburban densities.

Presently this area is not served by community water supply and wastewater treatment systems. Problems have been experienced in this area with on-site wastewater treatment systems. The cause of these problems is attributed to high groundwater. Development of this area as designated by the Plan will require community water and wastewater systems provided by the Cities of Anderson and Redding. It is anticipated that all of this area will be annexed by these two cities.

West Redding

West Redding comprises small scattered areas located along the western incorporated limits of Redding to the south of the Sacramento River and to the north of Clear Creek. Most of these areas are shown for suburban residential development. Commercial development is shown at the intersection of Clear Creek Road with Route 273. Urban residential development is shown to the north and south of this commercial area along the east and west sides of Route 273. This area would accommodate additional population growth of approximately 2,000 persons. Water supply and wastewater treatment would be provided by the City of Redding, and it is anticipated that these areas would be annexed.

Quartz Hill

This area is located on the northwest side of the City of Redding. On the west it is bound by the Sacramento River and on the north by federally owned lands under the jurisdiction of the Bureau of Land Management. The Redding city limits border the area to the south and east.

The Plan designates this area exclusively for suburban residential development. Presently largely undeveloped, this area if developed as planned would accommodate approximately 7,000 additional persons. Water supply and wastewater treatment would be provided by the City of Redding, which it is anticipated would annex this area.

POLICIES AND
IMPLEMENTATION

- a. Shasta County and the City of Redding shall jointly plan for unincorporated areas within the Redding Planning Area. Joint planning shall establish policies regarding the future annexation of unincorporated areas, including the timing of annexation and its fiscal implication.
Implementation: Shasta County and Redding enter into joint planning agreement.
- b. The Shasta County General Plan recognizes that a significant amount of the population growth anticipated during the period 1981 to 2000 will be accommodated within the incorporated limits of Redding as they existed in September 1981.
Implementation: Community Development element.
- c. Development of North Redding shall conform to a plan mutually prepared and adopted by Shasta County and Redding in anticipation of the ultimate annexation of this area.
Implementation: Joint planning agreement.
- d. The Stillwater area shall be a major future expansion area of the City of Redding. Development of this area shall conform to a plan mutually prepared and adopted by Shasta County and Redding in anticipation of its ultimate annexation. Community water supply shall be provided to this area by the Bella Vista Water District. Wastewater treatment shall be provided by an area-wide system as outlined in the Wastewater Treatment Element.
Implementation: Joint planning agreement.
- e. Development of the Old Oregon Trail area shall conform to a plan mutually prepared and adopted by Shasta County and Redding in anticipation of the ultimate annexation of this area. The Enterprise Sky Park shall be phased out upon the expiration of the present leasing arrangement to allow the conversion of this area to urban residential development. Wrecking yards located in the vicinity of Old Alturas Road shall be relocated to industrial areas in the vicinity of Airport Road. Relocation shall be accomplished with the planning assistance of the County Planning Department. Community water service shall be jointly provided by the Bella Vista Water District and Redding and wastewater treatment shall be provided by the SCR area-wide system described in the Wastewater Treatment Element.
Implementation: Joint planning agreement.
- f. Development of the Airport Road area shall conform to the Airport Area Specific Plan adopted by Shasta County and the Cities of Anderson and Redding.
Implementation: Adoption of Airport Specific Plan.
- g. Development of Churn Creek Bottom shall conform to the Community Development element and the land use pattern and circulation system shown on the Community Plan map.

Churn Creek Bottom shall remain unincorporated and not be served by community water supply and wastewater treatment. Access to Knighton Road, upon its extension and improvement as an arterial, shall be strictly limited to prevent commercial development in Churn Creek Bottom.
Implementation: Zoning ordinance, subdivision map review.

- Route 273 h. Development of this area shall conform to a plan jointly prepared and adopted by Shasta County, Anderson, and Redding in anticipation of the ultimate annexation of this area.
Implementation: Joint planning agreement.
- West Redding i. Development of this area shall conform to a plan jointly prepared and adopted by Shasta County and Redding in anticipation of the ultimate annexation of this area.
Implementation: Joint planning agreement.
- Quartz Hill j. Development of this area shall conform to a plan jointly prepared and adopted by Shasta County and Redding in anticipation of the ultimate annexation of this area.
Implementation: Joint planning agreement.

CENTRAL VALLEY TOWN CENTER

HISTORY

The Town Center of Central Valley encompasses the communities of Central Valley, Project City, Pine Grove, Summit City, and Toyon. These communities are grouped together because they relate to each other both geographically and historically, they are served or could be served by Shasta Dam Area Public Utilities District, and from a comprehensive planning perspective it makes sense to address them as one planning unit. These communities trace their origins to one of the biggest public works projects undertaken by our Country, the construction of Shasta Dam in the late 1930's and early 1940's.

The community of Central Valley was named by Margaret Hardenbrook, former teacher and member of a pioneer family. She suggested the name because Shasta Dam was the head of the Central Valley Project of California.¹ In its early days, Central Valley, originally named Boomtown, was a construction camp built between Highway 99 and Kennett Road along what is now Shasta Dam Boulevard. Early settlers frequently had to pitch tents or build tar paper shacks for temporary living quarters. By 1938, Central Valley supported 19 restaurants, 8 grocery stores, 5 markets, 3 hotels, and a population of 1,750. In November of that year, residents petitioned the Shasta County Board of Supervisors for incorporation, citing a pressing need for municipal facilities and services. A post office was established, but incorporation was denied.

West of the community of Central Valley is Summit City, located at the junction of Coram (Shasta Dam Boulevard) and Kennett

¹Earl Love, letter of January 19, 1979.

Roads. Summit City was so named because it marked the start of the descent to the dam site.¹ Project City, initially the postal center for the surrounding communities, was established at the junction of Highway 99 and Coram Road with Pine Grove approximately one mile south of this point. Project City received its name from the workers on the "Project" who lived there.² At about the same time, the Federal Government completed worker residences on a site called Toyon.

Although these communities contained all of the characteristics for "ghost towns", including rapid and oftentimes careless construction and a temporary economic basis (Shasta Dam was completed in 1944), they refused to die. After the completion of the dam, the area served as the residence for many persons working in a variety of occupations. New industry came into this region with several small lumber concerns dotting the Central Valley hinterland. In 1948, the Shasta Dam Area Public Utility District was formed, after a lengthy struggle with the Pacific Gas and Electric Company, serving the dam area towns with low-cost electricity and water. The District also maintained seven parks and playgrounds. Summit City also operated a successful water district by the '50s. In 1956, the area had grown to the point where it could receive its own secondary school — Central Valley High School. A yearly celebration called the Damboree was an established attraction by this time.

The vitality of the town of Central Valley reflects the spirit of its founders, individuals, and families who migrated to a new area and endured primitive conditions in order to find work and a better life. As the town approaches the half century mark of its history, this spirit has been directed toward resolving the difficult problems which also trace their origins to the "boomtown" roots of Central Valley. These problems define the planning issues which must be addressed by the community plan for this town center and are discussed below.

The primary references used in preparing the community plan were:

- Results of Shasta Dam Area questionnaire distributed in August, 1978.
- Community Development Plan Goals and Objectives, Shasta Dam Area Chamber of Commerce, September, 1978.
- Design Review Objectives, Shasta Dam Area Planning Advisory Committee.
- Preliminary Land Use Recommendations (map), Shasta Dam Area Planning Advisory Committee, Summer, 1979.

¹ Ibid.

² Ibid.

- Letters from members of the community as follow:
 - Charlotte Whelchel, Co-Chairman, Shasta Dam Area Planning Advisory Committee
 - Connie Hitchcock, District 4 Representative, Countywide Planning Advisory Council
 - Susan Evans, Executive Director, Shasta Dam Area Chamber of Commerce

FINDINGS

Public Safety

The major public safety considerations in Central Valley are hillside development/erosion, flooding and drainage, fire safety, noise, hazardous materials, and water quality.

There are several hills in the Central Valley area characterized by moderate to steep slopes. Development of these hills will require attention to grading to minimize erosion impacts. One especially steep hill is located directly north east of the intersection of Shasta Park Road and Shasta Dam Boulevard. This hill should be protected from all development, but with some type of density transfer system established to transfer development rights from the hill to adjacent properties.

Churn and Salt Creeks flow through Central Valley. The 100 year floodplain of these creeks and their tributaries would inundate certain areas of Central Valley, most of which are already developed. This development is responsible for major drainage problems which occur in the area during storms of less than the magnitude to cause the 100 year flood. During the boomtown era of Central Valley, houses were constructed on small lots with little or no regard for drainage and potential flooding problems. This development pattern which was generally perpetuated in subsequent years, has made the natural drainage channels in the area virtually inaccessible for periodic maintenance and improvement. It is reported in some instances that the foundations of houses literally hang over the drainage channel. This small lot development pattern has also made it extremely difficult to construct man-made drainage channels. The major drainage problems are associated with Salt Creek and its unnamed tributary which enters it from the west, while lesser but still serious, problems are associated with Churn Creek and its tributaries. In recent years, subdivisions in the area have been required to install holding ponds to meter the release of storm-water flows into the natural drainage system.

The Public Works Department has been attempting to remedy drainage problems on a piece-meal basis, but it is acknowledged that a comprehensive solution to drainage problems will require a study of the entire Central Valley area, followed by a program of capital improvements and some property acquisition. The costs of such a study and program are estimated to be substantial.

With respect to wildland fire hazards, most of the nonurbanized areas of Central Valley are classified as extreme, while the remainder falls into the moderate hazard category. Fire protection responsibility for these areas is shared by many agencies, including the Central Valley Fire Protection District (CVFPD), Summit City Fire Protection District (SCFPD), and Shasta County. The urbanized areas of Central Valley are served by CVFPD and SCFPD. The level of service provided by both districts has been adversely impacted by the passage of Proposition 13 which reduced district revenues, and

continued development which has increased demands for service. In the wake of Proposition 13, CVFPD lost 7 of its 10 full-time employees. Efforts by the district to restore lost revenues through special taxes have been unsuccessful. Recently, a \$500 per unit fire protection fee has been imposed on new development, which must also now provide its own fire hydrants. District officials state that these actions have helped considerably in improving the level of service, but they caution that increased tax revenues are still required to provide adequate service. Elimination of duplication of service by consolidation of the SCFPD, CVFPD, and Mountain Gate FPD has also been recommended as a partial solution to providing improved service.

The Southern Pacific Railroad and Interstate 5 are the major existing sources of environmental noise in Central Valley. Future development of the area will likely increase noise levels along Lake and Shasta Dam (Route 151) Boulevards to levels requiring attention by the planning process.

The State Department of Health Services has identified a hazardous waste facility in Central Valley which may meet the qualifications for designation as a hazardous waste property, thereby subjecting it and surrounding property to regulation by the State Department of Health Services. This facility is associated with a commercial metal plating operation located on El Cajon Avenue Southwest. The regulatory system applicable to hazardous waste properties is discussed in the Hazardous Materials Element.

The impact of septic tank systems on water quality in the Central Valley area has been the subject of considerable discussion. Results of a recent study conducted by Shasta County in the Summit City area proved inconclusive.

Resources

Located immediately to the north of Central Valley is an approximately 1,890 acre site which contains extensive deposits of Copely Greenstone, used to manufacture roofing granules. This site has been purchased by 3M for the mining and manufacturing of this product. The Southern Pacific Railroad and I-5 provide access to this site.

Moody, Salt, Churn, and Newtown Creeks traverse parts of Central Valley. The riparian habitat along major portions of these creeks has been extensively altered or destroyed by man. Future development in the area could also have similar results in the absence of policies designed to protect this habitat.

Route 151 (Shasta Dam Boulevard) and an approximately 1/2 mile segment of Route A18 (Lake Boulevard) due south of Shasta Lane are eligible for official designation as State Scenic Highways. A corridor study was completed by the State Department of Transportation for a segment of Route 151 beginning approximately 1/2 mile to the west of its intersection with Route A18 and continuing on to Shasta Dam, and for the segment of route A18 described above. Following the appropriate action by the County Board of Supervisors, with respect to the highway segments contained in the corridor study, they received their official scenic highway designation by the state.

In addition to preserving its scenic quality, official designation results in statewide publicity of the location of a scenic highway.

Such publicity is beneficial to the local tourist industry. Extension of the official designation along the entire length of Route 151 would enhance this publicity benefit. This effort should be jointly undertaken with design studies of the Route 151 commercial area, described below.

Central Valley contains many buildings and structures dating from the period of Shasta Dam's construction and the earlier "gold rush" era. These historical resources are listed in a document prepared by Hazel McKim dated January 1979 and many of them are located along Shasta Dam Boulevard. The existence of these resources presents the opportunity to use them in developing and strengthening the community identity of Central Valley and promoting its value as a tourist destination. Strong support for developing a historic building theme in the commercial area of Central Valley was expressed in the responses to a questionnaire distributed by the Shasta Dam Area Chamber of Commerce in 1978. Based on this response, the Chamber, in conjunction with the Shasta Dam Boulevard Improvement Committee, developed a preliminary set of design review guidelines emphasizing a "frontier motif."

Community Development "Community identity" is frequently mentioned by the residents of Central Valley as a major issue. This phrase is used to describe many problems symptomatic of the community's existence as an urban area with many of the essential characteristics of a municipality, but lacking status as an incorporated entity. Community identity is used to describe the concern that Central Valley not become part of the Redding urban area; to express dissatisfaction with the level of services, including planning services, provided by County Government; and to communicate a general feeling that Central Valley potentially has a strong identity, which has not yet crystallized.

Recently the residents of this community have expressed interest in incorporation. A significant amount of uncertainty surrounds the cost and benefits, both to Central Valley residents and Shasta County, of this approach to establishing a community identity. These costs and benefits will remain unknown in the absence of detailed study.

A major factor in the development of Central Valley almost since its beginning has been the Shasta Dam Area Public Utility District (SDAPUD). This entity is unique in that it is the only one in the SCR Planning Area providing both water and sewer service to an area which is unincorporated. In addition to providing community water supply and wastewater treatment service, SDAPUD provides electric power and park and recreation services. Under its enabling authority, this entity could provide other municipal services.

In many respects, SDAPUD functions as the de facto municipal government of Central Valley. This is especially true regarding decisions to expand its service area. These decisions directly determine the type and density of development, yet SDAPUD does not exercise land use planning and regulatory authority.

The above discussion suggests that the issues of Central Valley's community identity, potential incorporation, and the role of SDAPUD must be jointly resolved. A logical first step would be a

study exploring the costs/benefits of incorporation. It seems appropriate that this study be jointly funded by Shasta County and SDAPUD under the auspices of the Shasta County Local Agency Formation Committee (LAFCO).

Economic development issues in Central Valley are concerned with the revitalization of the commercial area along Shasta Dam Boulevard, general enhancements of the tourist destination potential of the area, and the attraction of light industry to the Ashby Road industrial area which is served by rail.

Shasta Dam Boulevard is the focus of many planning issues including noise, scenic highways, and historic buildings, which have been previously discussed as well as circulation and community design, discussed below. This corridor, from I-5 to Lake Boulevard, requires a specific plan to address these issues plus integrate its tourist and community commercial serving functions.

Tourism is a major contributor to the economy in the Central Valley area. The major resources for its enhancement must come from the private sector, but the community plan can play an important role in coordinating public and private investments and setting the overall policy direction for private efforts.

The Ashby Road industrial area requires protection from residential and other incompatible development. This area presently enjoys rail access, but it requires improved access to I-5. Such access would be provided by a new road linking Ashby Road with the Pine Grove interchange.

Much of the existing housing in Central Valley was originally constructed as temporary housing for workers on the construction of the dam. Much of this housing today is in need of substantial rehabilitation and upgrading. A major handicap in any rehabilitation effort is the lack of detailed knowledge of housing conditions in the community.

Future residential development in Central Valley will be of two general types - "infilling" within existing residential areas and development on vacant land. Both types, but especially the former, will require careful siting with respect to density, appearance, and access requirements, to relate them to the existing development pattern.

Several circulation issues pertinent to Central Valley are discussed in the Circulation Element. Circulation needs not discussed in this element are considered below.

As noted above, optimum utilization of the Ashby Road industrial area will require the construction of an arterial linking Ashby Road and the Pine Grove interchange on I-5. This industrial area should also be linked with the Mountain Lakes Industrial Park to the south via a north-south collector on the east side of the railroad connecting Ashby and Oasis Roads. This new collector should also be linked with the Cascade Boulevard frontage road along I-5 via an east-west collector.

Residential development in Central Valley will require the extension of Black Canyon Road north to the Old Oregon Trail interchange with I-5. Black Canyon should also be extended southwest to connect with Hardenbrook Avenue, which in turn should extend south to the new Pine Grove Avenue arterial. Finally, the Pine Grove arterial should extend east of I-5 to link up with Akrich

Street.

The commercial area of Shasta Dam Boulevard experiences serious parking problems caused by the lack of on and off-street parking. During the tourist season, problems are caused by inadequate space for the parking of recreational vehicles. The commercial area also experiences circulation problems caused by one-way and narrow streets. These problems all should be addressed in the overall study of Shasta Dam Boulevard.

The growth target for Central Valley specified in the Community Organization and Development Element anticipates a population increase of approximately 12,600 persons during the next 20 years. Almost all of this growth will occur at urban and suburban densities, requiring the provision of community water supply and wastewater treatment by SDAPUD. The implications of this amount of growth for this entity are significant. SDAPUD now has an existing unused water supply allocation to accommodate about 9,000 persons. The growth allocation would exhaust this target and require SDAPUD to seek additional allocation from some other entity. Obtaining additional allocation does not pose a major constraint for two reasons. One, Shasta County Water Agency has existing unused capacity to accommodate 14,500 persons; the amount required to make-up the difference for SDAPUD would exhaust 25% of this capacity. Two, there is enough unused water allocation in the SCR Planning Area to accommodate a population increase of 197,000; the issue is not one of supply, but of developing an institutional mechanism to allow the sharing of this allocation. The resolution of this issue is discussed in the Water Supply Element.

Wastewater treatment presents more of a limiting factor. The SDAPUD treatment system is currently at its effective capacity and any growth in the community will require the provision of additional treatment capacity. One option for providing this capacity would be to construct a line from the treatment plant south to the Sacramento River to a point below the Bella Vista Water District intake, which is near the Route 44 overpass. Once SDAPUD is able to utilize the dilution potential of the Sacramento River, it could easily accommodate the target population increase.

Another option would be for SDAPUD to participate in a proposed regional treatment system designed to serve the Upper Churn Creek area, the Clover Creek area, and the Stillwater Drainage Basin. This system would flow to a proposed treatment plant generally located in the vicinity of the confluence of Stillwater Creek, and the Sacramento River. Again this plant would use the dilution potential of the Sacramento River.

The cost of providing additional wastewater treatment capacity under either option will be substantial, but again, any further growth of Central Valley will require additional wastewater treatment capacity.

The target population growth for Central Valley will require the provision of additional elementary school facilities by the Shasta Lake Union School District, which is currently at capacity. Projections developed in the Countywide Schools Element forecast an increase in the student population of 690 for the period 1981-86, while the District projects an increase of 315 for the period 1980-85. The discrepancy is the result of the two different methodologies

used. The Schools Element uses pupil generation factors related to housing units constructed; the district uses annual percentage increases. In any event, there is no question that additional facilities will be required.

Future library needs in Central Valley will require the construction of a permanent facility.

The demand for community recreation resources in Central Valley is not now being satisfied, and this situation will continue for the foreseeable future. Funds for the acquisition of facilities will be virtually unavailable at the County level. The Community Recreation Element provides that the County use subdivision exactions to acquire parklands or in lieu fees, which in turn will be conveyed to local schools and special districts for operation and maintenance.

A special recreation need of Central Valley is for a senior citizens meeting facility.

The design elements of Central Valley have been discussed under previous sections. These elements include hillsides, riparian corridors, historic buildings, and the Shasta Dam Boulevard scenic corridor extending from I-5 to the Dam. Careful integration of these elements can establish a distinct physical image of Central Valley and thus create a tangible, physical identity.

POLICIES AND IMPLEMENTATION

Public Safety

- a. Hillside development shall be regulated by a Countywide ordinance which relates density to slope and provides design standards to minimize grading, vegetation removal, and visual disruption of the hillside. This ordinance shall provide for the transfer of development rights in areas where hillside development should be prohibited.
Implementation: County adopts Hillside Ordinance.
- b. Shasta County shall undertake a comprehensive drainage study of Central Valley directed toward identifying a specific program of capital improvements and land acquisition. This study shall explore in detail all available government funding sources and prepare detailed estimates of assessment district options. This study shall also specify interim control measures, including design standards for new development and short-term, low cost improvements.
Implementation: County funds study.
- c. Shasta County shall support and actively encourage the consolidation of the Summit City, Central Valley, and Mountain Gate Fire Protection Districts.
Implementation: County adopts resolution.

- d. The siting of future development with respect to use and intensity of development shall address the noise impacts of the Southern Pacific Railroad, I-5, and major arterials in conformance with policies contained in the Noise Element.
Implementation: County adopts rezoning and uses environmental review process in discretionary reviews.
- e. Development in the vicinity of the hazardous waste facility shall conform to policies and regulation adopted by the State Department of Health Services.
Implementation: County adopts Hazardous Waste Zone.
- f. Shasta County shall conduct periodic studies on an as needed basis to monitor the water quality impacts of on-site sewage disposal systems in Central Valley.
Implementation: County directs Health Department to conduct studies.

Resources

- a. Mineral resource extraction activities in the vicinity of or adjacent to Central Valley shall be prevented from adversely affecting the community by the use of open space buffers, monitoring of water and air quality impacts, and the routing of traffic generated by the extraction operation.
Implementation: Environmental review process.
- b. All development along Moody, Salt, Churn, and Newtown Creeks shall conform to Countywide policies FW-f, OSR-h and CD-o.
Implementation: Site plan review.
- c. In conjunction with other studies of Shasta Dam Boulevard, Shasta County shall request CALTRANS to prepare a scenic highway corridor study of that portion of the Boulevard not covered by previous studies.
Implementation: County adopts resolution.
- d. Shasta County shall apply Countywide policies HER-c and HER-d to preserve the historic resources of Central Valley.
Implementation: County adopts resolution.

COMMUNITY DEVELOPMENT

- a. Development in Central Valley shall conform to the land use pattern and circulation system established in the SCR Planning Area map.
Implementation: County adopts zoning revisions and reviews subdivision maps for conformance with Plan.
- b. Shasta County, in conjunction with the Shasta Dam Area Public Utilities District, shall jointly fund a study examining the costs and benefits of the incorporation of Central Valley. This study shall be supervised by the Local Agency Formation Commission. This study shall examine costs and benefits to the County, the SDAPUD, and persons residing or owning property in Central Valley.

Implementation: County enters into joint powers agreement and funds study.

- c. Shasta County shall prepare a specific plan of Shasta Dam Boulevard from I-5 to Lake Boulevard to address the following issues:

- Traffic, parking, and noise impacts caused by new development.
- Establishing a historic design theme, including scenic highway potential.
- Revitalization of the commercial uses, including integration of tourist and community serving commercial functions.

Implementation: County directs Planning Department action.

- d. Shasta County shall conduct a housing conditions survey and develop a rehabilitation program.

Implementation: County directs Housing Authority action.

- e. Residential zoning designations and the review of new residential development shall respect existing residential development and the integrity and individuality of the existing communities and neighborhoods of Central Valley.

Implementation: County adopts Zoning ordinance revisions.

- f. The following circulation improvements shall be constructed commensurate with the development of Central Valley:

- Pine Grove Avenue extension from Ashby Road to I-5, and from I-5 to Akrich Street.
- North-south collector linking Ashby Avenue industrial area with the Mountain Lakes Industrial Park along the east side of the Southern Pacific Railroad, and east-west collector linking this new collector with Cascade Boulevard.
- Extension of Black Canyon Road north to the Old Oregon Trail interchange and southwest to Hardenbrook Avenue.
- Extension of Hardenbrook Avenue south to new Pine Grove Avenue extension.

Implementation: County requires road construction and dedication where possible; otherwise funds construction.

- g. New residential development at urban and suburban densities and new commercial and industrial development shall be provided with community water supply and wastewater treatment. The provision of these services shall conform to Countywide objectives WS-2 and WT-2.

Implementation: Subdivision map review and environmental review process.

- h. Schools, libraries, and community recreation shall be addressed as provided in the Countywide Element.

Implementation: Self-explanatory

COTTONWOOD TOWN CENTER

HISTORY

The town of Cottonwood was formed adjacent to a ferry crossing on the south side of Cottonwood Creek which for many years served as a "reception point" for immigrants traveling to the Upper Sacramento Valley. Cottonwood was established as the second official Shasta County post office in 1852 but became a part of Tehama County in 1856 when this county was formed.

In 1872, the Central Pacific Railroad built a depot on the north side of Cottonwood Creek (Shasta County). This prompted the Tehama County post office to be moved to the Shasta County side of the creek, thus establishing the first structures of the Cottonwood community as it is known today.

By the 1880's, Cottonwood had become the County's largest shipping point for cattle, hogs and wool, and by 1900 was also a major distribution station for lumber and shakes from the Shingletown mills. As in the present day, agriculture was a profitable venture in Cottonwood's younger days and was made even more so with the establishment of the Anderson-Cottonwood Irrigation District (ACID) in the early 1900's.

The year 1925 was very important in Cottonwood's history as it marked the completion of a large PG & E substation which provided jobs for over 100 men. The apiary industry was also introduced to Cottonwood during this year, and became so successful that by 1950 Cottonwood was the largest bee shipping center in the United States. At this time the town also claimed the largest persimmon orchard in the world, was important as an electrical distribution point, and was famous as supporting the world's largest fish hatchery.

Today, Cottonwood is an unincorporated urban residential community and employment center noted for its historic character and small town atmosphere. Residents of Cottonwood have identified their primary planning objectives as the retention of those factors which define the present quality of community life, including clean air, open space, recreation facilities, and rural atmosphere, while recognizing the recent and possible future growth of the community.

The main references used in developing the community plan were:

- Suggestions to Specific General Plan, Cottonwood Area Review Committee, August, 1980, and
- CPAC Sketch and Rural Community Plan Comment Form, plus accompanying map.

FINDINGS

Public Safety

Water quality is a major problem in the Cottonwood area, as described in the following extract from the Wastewater Facilities Plan and Final EIR, November, 1979, at page I-5:

A sanitary survey and report by the Shasta County Health Department, conducted during the spring and early summer of 1976, indicated a serious health hazard in Cottonwood from surfacing sewage and contaminated ground and surface waters. The survey provided a current statistical verification of sewage problems in the Cottonwood area. The Department concluded that approximately 30 percent of the properties experience failures of their sewage disposal systems, with 11 percent apt to be overflowing at any given time in the winter.

In September of 1976, the Shasta County Health Department sent a letter to the California Regional Water Quality Control Board stating, "The Cottonwood area needs a public sewage disposal system badly and would strongly concur with any prohibition of waste discharge your Board might establish".

Also in September of 1976, the Cottonwood Chamber of Commerce voted unanimously to support the County health official's plan to recognize a health hazard. The Shasta County Board of Supervisors passed a resolution stating that they would support "efforts to obtain public sewers . . . and would concur in a prohibition of waste discharges imposed by the Water Quality Control Board".

On October 22, 1976, Order 76-230 was adopted by the Central Valley Region of the California Regional Water Quality Control Board prohibiting any additional waste discharge from leaching and percolation systems within the community of Cottonwood, and prohibiting the discharge of waste from these systems after January 1, 1981.

The effective date of Order 76-230 has been stayed indefinitely based on the plans of the Cottonwood County Water District to construct a community wastewater treatment system. The current status of this plan is discussed below under Community Development.

Resources

The U.S. Soil Conservation Service, in its Important Farmlands Inventory, has classified lands within Cottonwood and its vicinity as prime agricultural lands. Most of these lands are located to the east of the Southern Pacific Railroad and are generally held in large parcels ranging from 50 to 200 acres. West of the townsite, the prime agricultural lands are generally located immediately south of Gas Point Road. Prime lands located adjacent to the townsite are held in small parcels, while those located farther west are generally

held in larger parcels. Most of the lands west of Cottonwood and south of Gas Point Road have been classified by SCS as potential prime farmlands, that is they meet all the requirements of prime farmlands except they are not now being irrigated.

Front Street in Cottonwood contains many buildings dating from the period 1872 to 1930, with several note-worthy structures dating from the turn of the century. These structures play a major role in establishing the character of the community and should be protected.

Community Development Cottonwood has a strong identity as a small town community which can trace its roots to the origins of Shasta County. Presently the community is at a major turning point in its history. Unless a community wastewater treatment system is constructed, the community will be limited to its present size. On the other hand, if a community treatment system is installed, its capacity would be essentially limited only by the size of the treatment plant because of the substantial dilution potential of Cottonwood Creek and the Sacramento River. Given its location astride the I-5 corridor, its proximity to in-County and out-of-County employment centers, and the potential availability of domestic water from ACID, the growth inducing impacts of a wastewater treatment system could be significant and would potentially threaten the small town character of the community.

The development pattern designed for Cottonwood in Part Two: Countywide Elements, recognizes the necessity of providing a community treatment system, while preserving the existing character of the community by limiting the area to be served by the system.

Construction of the proposed Cottonwood Dam would locate a recreational facility of statewide significance in close proximity to Cottonwood, the major tourist access point to this facility. Tourist related economic development resulting from the construction of this facility could also significantly change the appearance and character of this community in the absence of policies designed to preserve this character.

Community water supply is provided by the Cottonwood County Water District, which obtains its water from the Redding groundwater basin. The safe yield of this basin is unknown. The growth target contained in the Countywide Element specifies a population growth of 3,250 persons during the twenty year planning period. This growth would be accommodated by expansion of the Cottonwood Water District.

The issue of community wastewater treatment has been discussed previously. Population growth targeted for Cottonwood would require the construction of a community system. It presently appears that this system will be in operation by the Fall of 1983.

The growth of Cottonwood will require some new roads. On the east side of I-5, there will be the need for a north-south road between Balls Ferry Road, just east of where it crosses over the Southern Pacific Railroad, and Black Lane. On the north, Main Street and Locust Road should be connected approximately 1/8 of a mile north of Trefoil lane. To the west, there will be the need for a

north-south road running north from First Street along the section line and turning to the east to connect with Rhonda Road to the north of Linda Lane.

POLICIES AND IMPLEMENTATION

Public Safety

- a. Shasta County shall maintain its support for constructing a community wastewater treatment system in Cottonwood.
Implementation: None required.

Resources

- a. Agricultural lands in the Cottonwood area shall be preserved as provided in the Agricultural Lands Element.
Implementation: Zoning ordinance.
- b. Shasta County shall preserve the historic resources as provided by Countywide policies HER-c and HER-d.
Implementation: Zoning ordinance.

Community Development

- a. Development of Cottonwood shall conform to the Community Development Element and the land use and circulation plan shown on the SCR Planning Area map.
Implementation: Zoning and subdivision ordinances.
- b. Community wastewater treatment service shall not be provided outside of the areas designated as urban and suburban residential on the land use plan.
Implementation: Zoning and subdivision ordinances.
- c. New commercial development shall be limited to areas within the existing townsite and shall not be allowed along Gas Point Road.
Implementation: Zoning ordinance revision.
- d. New development in Cottonwood shall be served by the Cottonwood County Water District.
Implementation: Zoning and subdivision ordinances.
- e. As required by the growth of the community, the following road improvements shall be made:
 - Link Balls Ferry Road and Black Lane via a north-south road intersecting Balls Ferry Road immediately east of where it crosses the railroad.
 - Link Main Street and Locust Road via an east-west road 1/8 mile to the north of Trefoll Lane
 - Construct a new north-south road connecting Rhonda Road and First Street.

Implementation: County requires road construction and dedication where possible; otherwise funds construction.

BELLA VISTA RURAL COMMUNITY CENTER

HISTORY

During the 1890's and 1900's, Bella Vista played an important role in the County lumber industry. This community marked the end point of a flume carrying lumber to the local box factory and was the site of a planing mill operated by the Terry Lumber Company. Bella Vista was also the origin of the railroad line which carried finished lumber to Anderson for further distribution.

Today Bella Vista is primarily a residential community whose residents must commute to find employment. The community enjoys good access to employment centers located in Redding and Anderson via Route 299, I-5 and Deschutes Road. Mobile homes are a major housing type in the community.

FINDINGS

Public Safety

Portions of Bella Vista are within the 100 year floodplains of Dry and Yank Creeks. Most of the community is classified as a moderate fire hazard area. These public safety considerations are addressed by the applicable Countywide elements.

Resources

Dry Creek and Yank Creek are riparian habitat areas. In addition, Dry Creek is classified as a Class 1 anadromous fish spawning area.

Some lands located to the southeast of the community at the confluence of Dry and Little Cow Creeks have been classified as prime farmlands by the U.S. Soil Conservation Service Important Farmlands Inventory. Most of these lands are under Williamson Act contracts.

Community Development

Bella Vista is located at a transition point between the SCR and Eastern Upland Planning Areas. To the west in the former planning area, extensive smaller parcel subdivision activity has occurred, primarily as the result of road access and the availability of community water service. Subdivision activity has also occurred to the east of Bella Vista, but most of this land is held in relatively large parcels, some of which are used for grazing and are under Williamson Act contracts. The community plan for Bella Vista preserves this distinction between the two planning areas.

Bella Vista is provided with community water by the Bella Vista Water District. Wastewater treatment service is provided by individual, on-site systems. The growth projected for this community can easily be accommodated by the Bella Vista Water District, which has extensive unused capacity. Wastewater treatment is more of a limiting factor and future development will be contingent on the ability to comply with County standards for on-site systems.

Commercial uses in Bella Vista should be those necessary to meet local needs.

POLICIES AND IMPLEMENTATION

- a. Development in Bella Vista shall conform to the growth target established in the Community Development Element and the land use pattern and circulation system established in the community plan map shown in the SCR Planning Area Map.

Implementation: Zoning ordinance, subdivision map review.

- b. Development shall be served by the Bella Vista Water District and by individual, on-site wastewater treatment systems in compliance with County standards.
Implementation: Subdivision map review.
- c. Commercial development shall serve the needs of the local community.
Implementation: Zoning ordinance.
- d. Development along Dry and Yank Creeks shall conform to Countywide policies FW-f, OSR-h, and CD-o.
Implementation: Site plan review.
- e. Agricultural lands located to the southeast of the community shall be preserved for full-time farming operations, as provided by the Agricultural Lands Element.
Implementation: Zoning ordinance.

CENTERVILLE RURAL COMMUNITY CENTER

HISTORY

Little information exists regarding the early years of Centerville, except that it was a small mining district which operated sporadically until the 1930's. Centerville experienced significant growth in the 1870's and 80's, but this surge was short-lived. Today, the Grant School, the Centerville Grange, a cemetery, and an old stone quarry near Texas Springs are all that remain of this community's beginnings.

Centerville today is a residential community located on the fringe of the Redding urban area. Very limited employment exists within the community and most residents must commute to find employment. Centerville has experienced significant population growth in the past and anticipates future growth. The primary planning objective identified by community residents is the preservation of a rural atmosphere and identity.

The main references used in developing this plan were:

- General Plan Amendment Recommendations, Centerville Planning Advisory Committee, October, 1980, and
- CPAC Sketch and Rural Community Plan Comment Form, plus accompanying map.

FINDINGS

Resources

Community residents have identified the Olney, Tadpole, and Flat Creeks as requiring protection. Residents also encourage the retention of natural vegetation, ponds, reservoirs, and similar features throughout the community.

The community has identified the area south of Clear Creek Road as a gravel extraction area.

Community Development

Community residents have recommended a minimum parcel size of 2 acres, with an average of 3 acres, for all land divisions. A recommended minimum of 25% of the parcels created in any one

land division should be 3 acres or larger. It is also recommended that a single parcel may accommodate more than one dwelling, provided that the minimum acreage requirement specified above is satisfied. This recommendation also provides opportunities for the clustering of dwelling units in order to preserve large areas of undeveloped, open space. These recommendations are included in the community plan.

Community residents have identified three potential locations for community commercial uses:

- East of the Centerville C.S.D. office, on the north side of Placer Road.
- The intersection of Placer Road and Swasey Drive.
- The intersection of Placer Road and Texas Springs Road.

In order to limit their visual impact on the community and to facilitate single destination or "one-stop" commercial trips, one site should be selected and developed on a planned unit development (PUD) basis. PUD development will allow for future expansion and the construction of a well-designed, functionally efficient community commercial center. The community plan locates the commercial center at the intersection of Placer Road and Swasey Drive. This site was selected based on its central location and proximity to Grant School, another major destination point in the community.

Community residents have proposed three circulation improvements as follows:

- Designate Texas Springs Road as a primary collector road and reroute and re-align to by-pass Branstetter Lane and connect directly to the intersection of State Route 273 and South Bonneyview Drive.
- Re-align Honeybee Lane from Texas Springs Road to Clear Creek Road.
- Designate Swasey Drive as a secondary collector road and extend Swasey Drive from Placer Road to Texas Springs Road.

Given the projected level of community development, only items two and three are included in the community plan at this time. If future development exceeds this projected level, the need for the first item should be reevaluated.

The community has designated a system of pedestrian, bicycle, and equestrian trails, and has prepared recommendations for their implementation. These recommendations are included in the community plan.

Centerville residents have identified certain lands owned by the Bureau of Land Management as potential park and recreation sites. These recommendations are included in the community plan.

Water is supplied to the community by the Centerville Community Services District. The district has capacity to serve the projected population growth target.

Wastewater treatment in Centerville is provided by individual on-site systems. In order to maintain the rural character of the community, this method of treatment should be used for all future development and community wastewater systems should not be permitted.

POLICIES AND IMPLEMENTATION

Resources

- a. Olney, Tadpole, and Flat Creeks shall be subject to Countywide policies FW-g, FW-h and FW-i.
Implementation: See Countywide policies.
- b. New development shall preserve natural vegetation, ponds, and reservoirs, and similar features.
Implementation: Site Plan Review of new development.
- c. The areas north and south of Clear Creek Road shall be used for gravel extraction.
Implementation: Zoning ordinance.
- d. Development adjacent to the Centerville-Middletown Cemetery shall respect its historic value and potential designation as a historic site.
Implementation: Site Plan Review.

Community Development

- a. Development of Centerville shall conform to the Community Development Element and the Land Use and Circulation Plan shown on the SCR Planning Area Map.
- b. Minimum parcel sizes for all land divisions shall be 2 acres, with a 3 acre average. A minimum of 25% of the parcels created in any land division creating four or more parcels shall be 3 acres or larger. A single parcel may contain more than one dwelling unit, provided that the overall density shall not exceed 3 acres per dwelling units.
Implementation: Zoning Ordinance.
- c. A community commercial center shall be located at the intersection of Placer Road and Swasey Drive. This center shall be developed as a Planned Unit Development and shall contain a reserve area to allow for future expansion
Implementation: Zoning Ordinance and Site Plan Review.
- d. Swasey Drive shall be extended from Placer Road to Texas Springs Road and Honeybee Lane shall be re-aligned from Texas Springs Road to Clear Creek Road.
Implementation: County Capital Improvements Program.
- e. Pedestrian, bicycle and equestrian trails shall be designated within Centerville. These pedestrian, bicycle and equestrian trails shall provide a minimum usable pathway approximately 8 feet in width; shall be a minimum of 6 feet from the edge of the paved roadway; and may be at, above, or below the roadway level. The grades of the trails shall be consistent with their intended use, and shall be designed to take into

consideration their use as bicycle paths. The routes shall follow the roads as designated below:

- North side of Placer Road;
- North side of Texas Springs Road to connect with bicycle path on the South Bonneyview Road;
- West and southerly side of Swasey Drive; and
- Along any future major collector roads.

Equestrian and hiking trails shall be designated along the following specified routes:

- Muletown Road Trail. Along Muletown Road, from Placer Road to Whiskeytown Dam within the Whiskeytown National Recreational Park.
- Muletown Mountain Trail. Leading west from Swasey Drive through sections 7 and 23 to Muletown Road within the Whiskeytown Recreational Park.

All trails shall be designated for pedestrian, bicycle, and equestrian use only. Motorized vehicles shall be prohibited. Implementation of these routes, not within the County rights-of-way, shall be dependent on the existence of an adequate legal and liable entity to maintain and enforce the rules adopted for their use, or routes are to be offered for dedication to the County.

All trails shall be included in improvements required to be completed by subdivisions of lands fronting trails on either side of the road. Where required, additional rights-of-way shall be dedicated.

Where a developer is proposing public bicycle or pedestrian paths, and/or equestrian trails within a subdivision, these paths and/or trails may be substituted for the specific alignments designated in the General Plan under the following conditions:

- They begin and terminate on the designated route and provide an acceptable parallel route.
- The alignment is acceptable for the intended use.
- The substitute alignments are delineated in the tentative map and a right-of-way of adequate width is dedicated to the County on the final map.
- Improvement of trails shall be a condition of approval of the map.

Implementation: See Countywide Policy OSR-c.

f. Shasta County shall encourage the Bureau of Land Management to use its lands within and in the vicinity of Centerville as open space areas. The County encourages BLM to consider the following specific recommendations in its future planning:

- The Silver King Area is located at the corner of Placer and Simmons Roads. An underground water source makes this valuable to the water district and the community as a whole. Its central location in the community will make it a likely park for a baseball diamond and picnic area. It consists of approximately 20 acres which would make a large parking lot available, thus controlling parking congestion on Simmons and/or Placer Roads.

- The Olney Creek area on Swasey is only about ten acres. It is along Olney Creek and serves as open space for surrounding homes. Grant School teachers use it as a nature area for the study of science. To retain a rural atmosphere in the community a small strip of land such as this shall be preserved as a buffer and greenbelt.

- The Texas Springs area north of Honeybee Lane, consisting of about 20 acres, will serve as a historical recreation area. There is small cemetery there left from the days when Texas Springs was a tiny mining community. It will serve as an open space and park area for people from Clear Creek Road to and along Honeybee and Texas Springs Road.

- The Redding Bar area lends itself to yet another kind of recreation. It is located on Clear Creek and was a center of gold mining. This shall be set aside for historical preservation and picnic day use. Many citizens of the Centerville community may find Redding Bar as a desirable place for a family outing.

- Deer Area #1 is connected to Whiskeytown National Park above Clear Creek and extends east to Swasey. The terrain has suffered severe erosion due to unsupervised ORV use. The devastation becomes more evident each year. The area has great potential as a natural preserve and wildlife area because of its enormous size.

- Deer Area #2 will be set aside for hiking and horseback riding. This area consists of about 150 acres north of the Placer Road and Simmons Road intersection. It extends north to Lower Springs Road, west to Swasey Drive and borders private land toward Redding. This area is conducive to equestrian and hiker use because of its gentle incline and a ridge trail that leads to the Centerville water tower. The view from the top is spectacular, taking in both Mount Shasta and Mount Lassen. It is important as a nature area as well. There are red tail hawks, who return to their nests in the area

every year. A small deer herd roams the area and coyotes control the rabbit and rodent populations.

Implementation: County communicates these recommendations to BLM.

HAPPY VALLEY RURAL COMMUNITY CENTER

HISTORY

The Happy Valley area, presently known also as the communities of Olinda and Cloverdale, first appeared on the Shasta County map in 1867; yet substantial growth did not occur in the area until the 1880's. By this time, Happy Valley was the only irrigated region in southern Shasta County. Farming, particularly of fruits and berries, was thus strongly encouraged by a dependable water supply as well as cheap land and excellent soils.

Agricultural activities were aided in 1891 by the formation of the Happy Valley Irrigation District. Financial problems, however, suspended the district's activities until 1907 when it was reorganized into the Happy Valley Land and Water Company. By 1925, the new district, faced with water supply problems, was also forced to dissolve.

Today, many of the large farms of past years are gone, yet Happy Valley remains a popular rural residential area for many families. Maintenance of this rural atmosphere is the primary goal of the community.

The primary references used in preparing this plan were:

- Happy Valley General Plan Committee Recommendations, June, 1980
- CPAC Sketch and Rural Community Plan Comment Form
- Happy Valley Planning Committee Resolutions of February 28, 1981 and April 27, 1981.

FINDINGS

Resources

Happy Valley residents have expressed the desire to keep the canyon areas of the community in their natural, undeveloped state. This recommendation is reflected in the community plan.

Much of the lands within Happy Valley have been classified by the U.S. Soil Conservation Service in its Important Farmlands Inventory as prime or potential prime farmlands. This classification recalls the earlier history of Happy Valley when it was a major olive producing area. Today most of these lands are held in small parcels not conducive to full-time commercial agricultural use, but the agricultural value of these soils remains the same and should be respected.

Community residents have identified the contribution made by farming operations to the maintenance of a rural atmosphere. They have expressed support for the development of small farms within the community and the maintenance of water district policies supportive of agricultural uses.

The community plan recognizes the value of these agricultural lands, their prevailing parcelization pattern, and the community's

support of small farms by placing them in the agricultural lands category designed for part-time farming operations. This category is fully explained in the Agricultural Lands Element.

Community Development Happy Valley residents have identified two acres as the minimum parcel size, with actual parcel size depending on the ability of the parcel to accommodate an on-site wastewater treatment system and the composition of the surrounding neighborhood. This recommendation is included in the community plan.

The community has identified two locations for community-serving commercial development. These locations (below) are reflected in the Community Plan.

- **OLINDA:** Running generally from Olinda Road and Happy Valley Road north to Palm Avenue; thence west to Bonnett Lane.

- **CLOVERDALE:** Corner of Cloverdale and Oak Street; Oak Street from the present commercial auto shop on the west side to the intersection of Cloverdale; Cloverdale Road from Oak Street west for 1,000 feet on both sides of Cloverdale Road.

Residents of the community have expressed support for the use of subdivision exactions to obtain parklands or in lieu fees (Quimby Act). The community plan makes countywide policies in this area applicable to Happy Valley. The community has also expressed support for including a ten foot easement in all future major roads to provide for bicycle, equestrian, and hiking trails, and for encouraging the provision of such trails within new development. These recommendations are also reflected in the Community Plan.

The growth of Happy Valley over the next 20 years will place increasing demand on the capacity of existing roads and will require the construction of new roads. An adequate circulation system is necessary not only to meet the personal needs of community residents, but to provide for timely and direct access by fire protection, police, and medical emergency response vehicles.¹ The Community Plan includes several major road improvements, described below in the policies section.

The Clear Creek Community Service District provides water to Happy Valley. The district has capacity adequate to serve the growth anticipated for the community.

Wastewater treatment in Happy Valley is provided by individual, on-site systems. In order to preserve the rural atmosphere of the community, this method of treatment should continue and community systems not developed.

¹The minutes of a Happy Valley General Plan Committee meeting of February 27, 1980, attended by Chiefs of the Olinda and Cloverdale Fire Departments, noted, "The biggest drawback in (fire department) response time to calls is due to the condition and types of roads in existence in the community. Off the paved roads some are so poor that a fire truck cannot exceed 4 or 5 miles an hour."

POLICIES AND
IMPLEMENTATION

Resources

- a. The canyon areas of Happy Valley shall be preserved, to the extent feasible, in their natural undeveloped state. Where possible, these resources shall be incorporated into the overall design of proposed developments.
Implementation: Subdivision map review and environmental review process.
- b. The agricultural resources and the desire of the community to encourage small farms shall be recognized by designating lands as suitable for part-time farming operations, as provided by the Agricultural Lands Element.
Implementation: Zoning ordinance revision.

Community Development

- a. Development in Happy Valley shall conform to the land use pattern and circulation system established in the community plan map shown in the SCR Planning Area Map.
Implementation: Zoning ordinance, subdivision map review.
- b. Two acres shall be the minimum parcel size with actual parcel sizes determined by a site's ability to accommodate an on-site wastewater treatment system and the composition of the surrounding neighborhood.
Implementation: Zoning ordinance, subdivision map review, Department of Health Wastewater Treatment Standards.
- c. Community serving commercial use shall be located at the two following general locations more specifically shown on the community plan map:
 - Happy Valley Road between Olinda Road and Palm Avenue
 - The intersections of Cloverdale and Oak Street where maximum depth of commercial areas from roads shall be 660 feet. Additional lands may be classified as commercial as required by the growth of the community.Implementation: Zoning ordinance
- d. Countywide policy SLR-c shall apply in the Happy Valley Community. Trails shall be developed within the community in accordance with Countywide policy OSR-c. Future development shall consider the provision of internal trail systems.
Implementation: Subdivision map review.
- f. The following circulation improvements shall be constructed commensurate with the development of Happy Valley:
 - Extend Palm Avenue to the east and then south to connect with Olinda Road.
 - Construct Poplar Avenue.

- Extend Lassen Avenue eastward to connect with the westward extension of Cambridge Road.

Implementation: County requires road construction and dedication where possible; otherwise funds construction.

- g. New development in Happy Valley shall be provided with water by the Clear Creek Community Service District.

Implementation: Subdivision map review

- h. New development in Happy Valley shall be provided with individual, on-site wastewater treatment systems. Community wastewater treatment systems shall not be provided.

Implementation: Subdivision map review.

JONES VALLEY RURAL COMMUNITY CENTER

FINDINGS

Jones Valley is a small community of recent origin located to the south of the Pit River arm of Shasta Lake. The northern part of this community is within the Shasta-Trinity National Recreation Area. Originally established as a recreation community, Jones Valley now is a year round residential community.

Jones Valley is supplied with water by the Jones Valley County Service Area, which has a contract with the Shasta County Water Agency for up to 350 acre feet of water per year. Current use rate is approximately 25 acre feet per year. Wastewater treatment is provided by individual, on-site treatment systems.

Although Jones Valley has water available to accommodate substantial growth, wastewater treatment and proximity to the NRA are limiting factors. Only modest population growth, less than 50 persons, is projected for this community during the next 20 years. Development necessary to accommodate this growth would be centered around the existing road system.

Commercial development in Jones Valley should primarily serve community residents with some limited tourist commercial uses.

POLICIES AND IMPLEMENTATION

- a. Development in Jones Valley shall conform to the growth target established in the Community Development Element and the land use pattern and circulation system established in the community plan shown in the SCR Planning Area Map.

Implementation: Zoning ordinance, subdivision map review.

- b. Development shall be served by the Jones Valley County Service Area and by individual, on-site wastewater treatment systems in compliance with County standards.

Implementation: Subdivision map review.

- c. Commercial development shall primarily serve community residents, with limited provision for tourist commercial uses.

Implementation: Zoning ordinance.

MOUNTAIN GATE RURAL COMMUNITY CENTER

HISTORY

Community development in the Mountain Gate vicinity began with the establishment of a small ranching community called Bass. Little is actually known of this early community except that it consisted of only a store and a post office. In 1882 the Shasta Courier described this general region as "not a village, but in this section there are some good ranches."

Today Mountain Gate is a small residential community whose residents enjoy its scenic environment and rural atmosphere. Preservation of this environment is a primary community goal.

The primary references used in preparing the community plan were:

- CPAC Sketch and Rural Community Plan Comment Form.

FINDINGS

Mountain Gate residents have identified 2 acres as the minimum parcel size for future development in the community. This recommendation is reflected in the community plan.

The availability of water will be a critical factor in the future growth of the community. Currently, the Mountain Gate Community Service District (CSD) is allocated 350 acre feet of water per year from the Central Valley Project (CVP) and it uses approximately 345 acre feet per year of that allocation. In addition, the district pumps approximately 255 acre feet per year from wells. The district is considering adding additional wells to its system, however, the availability of additional groundwater in this area is not certain. The Mountain Gate CSD has also applied for additional allocation from the CVP. Since the CSD uses Shasta Lake as its water supply source, it could also purchase CVP water through the Shasta County Water Agency.

The growth target projected for Mountain Gate is 225 dwelling units over the next 20 years. Approximately 25 of these units would be accommodated by infilling within the existing development located to the west of I-5 and east of the railroad tracks. Development in this area will be limited by public lands, steep slopes, and wastewater treatment requirements. The remainder of the projected units would be accommodated in that part of the community which lies to the east of I-5. This assumes that the Mountain Gate CSD will be able to deliver water to this development.

Commercial uses in Mountain Gate include both local serving commercial and tourist serving commercial. The community plan is designed to locate local serving commercial within the core area of Mountain Gate and to locate tourist commercial uses in proximity to freeway interchanges.

POLICIES AND IMPLEMENTATION

- a. Development in Mountain Gate shall conform to the growth target established in the Community Development Element and the land use pattern and circulation system established in the community plan map shown in the SCR Planning Area Map.

Implementation: Zoning ordinance, subdivision map review.

- b. Minimum parcel sizes in Mountain Gate shall be 2 acres.
Implementation: Zoning ordinance.
- c. Future development within Mountain Gate will be provided with community water by the Mountain Gate Community Water District.
Implementation: Subdivision map review.
- d. Local serving commercial uses shall be located within the Mountain Gate core area. Tourist serving commercial uses shall be located in proximity to I-5 interchanges.
Implementation: Zoning ordinance.

SHASTA/KESWICK RURAL COMMUNITY CENTER

HISTORY

Shasta

Shasta's beginnings date back to 1849 when it was originally established under the name of Reading Springs, in honor of Pierson Reading's famous gold discovery in the area one year earlier. In 1850, the first County election resulted in the establishment of the County seat in Reading Springs, which at this time changed its name to Shasta. During this era, Shasta was a lively trading post for miners in the area as well as a terminal point for wagon trains heading north and west.

By the 1860's, however, the excitement of the previous years had begun to fade. The decline of Shasta has been attributed to four major events: the completion of new wagon roads which ended the town's importance as a wagon train terminus, construction of the Oregon-California Railroad (1872) which bypassed Shasta in favor of Redding, a disastrous fire in 1878, and the removal of the County seat to Redding in 1888. This final event caused the rapid decline of Shasta, and by World War I, the town had been abandoned and buildings had fallen to ruin.

In 1926, Assemblyman Roscoe Anderson of Redding initiated a movement to designate the old town as a State Park. With the assistance of the Shasta Historical Society and Mae Helen Boggs, Shasta became a part of the State Park acquisition program in 1937, and in June of 1950, the town was formally designated as a State Historical Monument.

Keswick

Named for Lord Keswick, an English stockholder in the Iron Mountain Copper Company, the community of Keswick is the home of the copper smelter serving the historic Iron Mountain Mine. Keswick was designated as a postal station in 1896, and by the turn of the century was the second largest community in the County, with 2,000 citizens, a school, church, and four stagecoach deliveries daily from Redding.

With the decline of the copper industry in the early 1900's, the copper smelter at Keswick closed and the community character shifted from industrial to residential, and remains so to this day.

FINDINGS

Shasta and Keswick are treated as one community because of their geographic proximity and the similarity of the planning issues they

face. Both areas are served by community water systems with more than enough capacity to accommodate the growth projected for them for the next 20 years. However, the limiting factor on growth in each area will be the availability of on-site wastewater treatment systems.

It should also be noted that Keswick Community Service District has experienced water pressure difficulties in the western portion of the district. This problem could be overcome fairly inexpensively by installing an intertie between Shasta and Keswick Community Service Districts along Rock Creek Road.

Each area also contains significant amounts of marginal or substandard housing (see Appendix H). Development in the vicinity of Benson Drive, Rock Creek Road, and Granite Drive will require upgrading of these roads. New commercial development should be limited to the existing commercial area within Shasta along Route 299, shall provide both community and tourist commercial uses.

POLICIES AND IMPLEMENTATION

- a. Development in Shasta/Keswick shall conform to the growth target established in the Community Development Element and the land use pattern and circulation system established in the community plan map shown on the SCR Planning Area Map.
Implementation: Zoning ordinance, subdivision map review.
- b. Development in the community shall be served by the Keswick or Shasta Community Service District, as appropriate, and by individual, on-site wastewater treatment systems in compliance with County standards.
Implementation: Subdivision map review.
- c. Commercial development shall be contained within the existing commercial area in Shasta along Route 299, and shall provide community and tourist serving commercial services.
Implementation: Zoning ordinance.
- d. Shasta County shall conduct a survey of housing conditions within the community and develop a rehabilitation program.
Implementation: County directs Housing Authority action.
- e. Benson Drive, Rock Creek Road, and Granite Drive shall be upgraded commensurate with the development of the community.
Implementation: County requires road construction and dedication where possible; otherwise funds construction.

PALO CEDRO RURAL COMMUNITY CENTER

HISTORY

Palo Cedro began as a 30 acre town site in 1891. The name Palo Cedro is derived from the Spanish term for cedar tree and was given to the community by its founders, W. H. Shanahan and Joe Enright. Throughout the ensuing years Palo Cedro supported fruit and stock raising and maintained a tranquil rural atmosphere. A small commercial center developed at the intersection of Deschutes Road and Route 44 (now Old Forty-Four Drive).

In recent years, the realignment and widening of State Route 44 signaled the potential for major changes to occur within the community. This potential was addressed by the Palo Cedro Community Planning Unit Study, initiated in 1975, and the resulting general plan and zoning ordinance amendments adopted at the beginning of 1977. This study and the goals and objectives it established for Palo Cedro were the primary reference used in the preparation of the community plan.

FINDINGS

Public Safety

Portions of the community are within the 100 year floodplains of Old Cow, Little Cow, and Oak Run Creeks. Most of the community is classified as a moderate fire hazard area. These concerns are addressed by the applicable Countywide Elements.

Resources

The community encompasses portions of the runs of Little Cow and Old Cow Creeks which have been classified as critical riparian habitats. These creeks have also been classified as Class 1 anadromous fish spawning areas. Oak Run Creek also provides for riparian habitat.

Lands to the south of the community along Little Cow Creek have been classified as prime farmlands by the U.S. Soil Conservation Service Important Farmlands Inventory.

Community Development

There are many factors which together present the opportunity for major changes within the community of Palo Cedro. Route 44 places the community within easy commute distance of the employment opportunities located in Redding. This route also provides convenient access to the Redding Municipal Airport and the commercial/industrial development planned for the surrounding area. Bella Vista Water District serves that part of the community to the north of Old Forty-Four Drive. The district has substantial unused capacity, and it is likely that it could expand southward to serve the entire community. Palo Cedro is currently served by individual, on-site wastewater treatment systems. There is a proposal to provide a community system to a 267 acre corridor along Deschutes Road located south of Old Route Forty-Four Drive and north of Hillside Drive. The treatment plant for this system would discharge to the Sacramento River via a pipeline running south along Deschutes Road. As noted in other parts of the General Plan, the potential of the Sacramento River to receive treated wastewater is substantial. Once the community system is constructed, its ability to serve additional areas within the community will be constrained only by the capacity of the treatment plant and the discharge pipeline.

In summary, the factors noted above could change the character of Palo Cedro from a rural to an urban community in the absence of explicit policies designed to maintain the rural character of the community. Such policies are expressed in the form of goals and objectives contained in the Palo Cedro Community Planning Unit Study and are reflected in the community plan.

POLICIES AND
IMPLEMENTATION

- a. Development in Palo Cedro shall conform to the growth target established in the Community Development Element and the land use pattern and circulation system established in the community plan map shown on the SCR Planning Area Map.
Implementation: Zoning ordinance, subdivision map review.
- b. Development of Palo Cedro shall preserve its existing rural character, and the provision of public services shall be consistent with this policy.
Implementation: Zoning ordinance, subdivision map review.
- c. Development in Palo Cedro located within the existing boundaries of the Bella Vista Water District shall be served by the District. Expansion of the service area of the District is consistent with policy b., above, subject to the consent of residents in proposed expansion areas.
- d. Development in Palo Cedro shall be served by individual, on-site wastewater treatment systems, with the exception of the area within County Service Area No. 8 which shall be served by a community system. In order to prevent the expansion of this system to other areas of the community, which would encourage a development pattern inconsistent with policy b., the size of the community system's treatment plant and discharge pipeline to the Sacramento River shall be limited to that required only to serve County Service Area No. 8.
Implementation: Zoning ordinance, subdivision map review, and Board of Supervisors regulation of the CSA.
- e. Commercial development in Palo Cedro shall be designed to meet the needs of the community. Commercial development designed to additionally serve surrounding Rural Community Centers and industrial development shall not be located in Palo Cedro.
Implementation: Zoning ordinance.
- f. Development along Little Cow, Old Cow, and Oak Run Creeks shall conform to Countywide policies FW-f, OSR, and CD-o.
Implementation: Site plan review.
- g. Agricultural lands located to the south of the community shall be preserved for full-time farming operations, as provided by the Agricultural Lands Element.
Implementation: Zoning ordinance.

Western Upland



IGO RURAL COMMUNITY CENTER

HISTORY

Igo's history dates back to the 1850's and 1860's and a settlement called Piety Hill, so named for the religious inclinations of its citizens. In 1866, the town of Piety Hill moved to an adjacent tract of land called Igo Flat to avoid destruction by one of five hydraulic mining operations then operating in the area.

The community of Igo was officially laid out in 1868. By the 1880's, Igo had earned a reputation as an important mining center in the County. The community also boasted the best orchard crops in the County, including apples, peaches, plums and grapes.

By 1900, mining was still a significant industry, yet increasing emphasis was being placed on stock raising and fruit growing activities which predominate to the present day.

FINDINGS

The plan for Igo provides a twenty year supply of approximately 600 acres of land categorized as Rural Residential A. These lands surround a mixed use service core located at the intersection of A16 on Cloverdale Road. On the west, these Rural Residential A lands adjoin two tracts of grazing lands presently under agricultural preserve contracts. The community center plan for Igo provides that larger residential lots be created along the border with these grazing lands.

Expansions of the existing community and development of lands classified as Rural Residential A would require the construction of collector roads. Development of this area would also have to address and mitigate its impacts on the Happy Valley Irrigation Canal.

The community plan for Igo also provides for the location of a sanitary landfill to the south of Clear Creek Road and to the east of Gas Point Road.

POLICIES AND IMPLEMENTATION

- a. Development of Igo shall conform to the Community Development Element and to the land use pattern and circulation system shown on the community plan map.
Implementation: Zoning ordinance and subdivision map review.
- b. Development adjacent to grazing lands shall occur at lower densities.
Implementation: Zoning ordinance.
- c. Development shall mitigate its impacts on the Happy Valley Irrigation Canal.
Implementation: Subdivision map and site plan review.
- d. The Igo Community Plan shall provide a site for a sanitary landfill owned and operated by Shasta County.
Implementation: Shasta County purchases landfill site.

ONO RURAL COMMUNITY CENTER

HISTORY

Ono was originally a small district known as Eagle Creek, named apparently for a man called Eagle who, in 1849, declared that rich gold deposits lay in Clear Creek. Although Mr. Eagle promptly disappeared after this declaration, many immigrants intrigued by his suggestion traveled the Creek bed in search of good diggings. Their first and most popular stopping place became known as Eagle Creek.

In 1882, William Kidder, a Baptist minister, teacher, and farmer appealed for a post office at Eagle Creek but the request was denied because another California town had already chosen the same name. Kidder then decided on the name Ono based on I Chron 8:12, which reads: "The sons of El-pa al; Eber and Mi'sham and Sha'med who built O'no and Lod, with the towns thereof."

The name Ono was accepted and the community was granted a post office in 1883. Until the turn of the century, Ono continued as a mining district, but the major economic activity has shifted to stock raising in the present day.

FINDINGS

The plan for Ono provides a twenty year supply of approximately 160 acres of land categorized as Rural Residential A. Primarily in response to topographic constraints, these lands are oriented along the southern side of A16. The mixed use service core is located along A16 and this compact pattern would be continued. Future development would be required to be setback from the three creeks, Cottonwood, Rector, and Eagle, which flow through the community. Development would also require the construction of additional collector roads.

POLICIES AND IMPLEMENTATION

- a. Development of Ono shall conform to the Community Development Element and to the land use pattern and circulation system shown on the community plan map.
Implementation: Zoning ordinance and subdivision map review.
- b. Development along Cottonwood, Rector, and Eagle Creeks shall conform to Countywide policies FW-f, CSR, and CD-o.
Implementation: Site plan review.

PLATINA RURAL COMMUNITY CENTER

FINDINGS

The plan for Platina provides a twenty year supply of approximately 80 acres of land categorized as Rural Residential A. Due to topographic constraints, these lands are located to the west of the existing mixed use service core along Highway 36. Development of these lands would be required to mitigate its impacts on Cottonwood Creek. Future expansion of this community beyond the area shown as Rural Residential A would be limited by topography to the north, east, and south, and by publicly owned lands to the west.

POLICIES AND
IMPLEMENTATION

- a. Development of Platina shall conform to the Community Development Element and to the land use pattern and circulation system shown on the community plan map.
Implementation: Zoning ordinance and subdivision map review.

French Gulch



FRENCH GULCH RURAL COMMUNITY CENTER

HISTORY

The community of French Gulch was born in 1850 when French Canadian immigrants from Oregon began initial mining in the region. Originally named Morrowville, the town served for many years as the headquarters for stagecoach operations before completion of the Shasta-Yreka turnpike road. The first quartz mine in the County, the Washington, was established at French Gulch in 1851, and nine years later, the town had grown into a sizeable community of 350 people. Despite a devastating fire in 1864, mining continued to be the major economic activity in French Gulch until well into this century. During the 1920's, the district was described as the most prosperous quartz section in Shasta County. Today, French Gulch is a quiet rural community, yet a living reminder of the colorful gold dust era in Shasta County.

The primary references used in the preparation of the community plan were:

- CPAC sketch and Rural Community Plan Comment Form
- French Gulch Planning Advisory Committee Letter of May 4, 1981
- French Gulch Planning Advisory Committee recommended Community Plan and notes, July, 1981.

FINDINGS

Resources

French Gulch is a major wildlife habitat area. The valley occupied by the community is bordered on both sides by the French Gulch Deer Winter Range Area. At the confluence of Clear Creek with its East Fork, the Deer Winter Range extends down into the valley. Minimum parcel sizes recommended in the Deer Winter Range by the California Department of Fish and Game are 40 acres.

Clear Creek is classified as a Class 2 trout fishing stream south of Canyon Hill Gulch. North of this point it is classified as a Class 1 stream.

French Gulch is also rich in historic resources, including those associated with both Native Americans and non-native settlers. There were at least 10 Wintu Indian villages along the Gulch.¹ The locations of some of these sites have been identified.

French Gulch contains several buildings dating from the last century, including the Franck Store, the French Gulch Hotel, and St. Rose's Catholic Church. The French Gulch Hotel, built in 1885, is a National Historic Landmark. The present day Clear Creek Mobile Home Estates was occupied by Chinese laborers during the Gold Rush era. Residents of the community have expressed strong support in favor of architectural control exercised through zoning in order to preserve the historical character of French Gulch.

¹Donna Harris, phone conversation, June, 1981.

Community Development French Gulch is a small community and it is not expected to experience major growth during the planning period. Limiting factors will be water availability and limitations on the use of on-site wastewater treatment systems. The population target established for this community is 100 additional persons during the next 20 years.

Residents of the community have expressed support for a linear, dispersed development pattern. Specifically, they have recommended 10 acre minimum parcel sizes within the area beginning approximately at the Clear Creek Mobile Home Estates Park and running north approximately 2 miles along Clear Creek. Outside of this area they recommend 20 acre minimum parcel sizes. With one exception, these recommendations are contained in the community plan. The exception relates to the area in the vicinity of the East Fork of Clear Creek, which falls within the French Gulch Deer Winter Range. As noted previously, recommended minimum parcel sizes in this area are 40 acres.

Outside of the actual community area along Clear Creek, residents of French Gulch stated support for placing lands within the Natural Resources Protection-Habitat land use classification. This recommendation is reflected in the community plan.

POLICIES AND IMPLEMENTATION

- a. Development of French Gulch shall conform to the Community Development Element and to the land use pattern and circulation system shown on the community plan map.
Implementation: Zoning ordinance and subdivision map review.
- b. Development in French Gulch shall conform to Countywide policies HER-b, c, and d in order to protect the historic resources of the community.
Implementation: As provided by Countywide policies.
- c. Minimum parcel sizes shall be 10 acres within the area designated on the community plan map as "Rural Community Mixed Use" and that portion of the area designated as Rural Residential A between Clear Creek Mobile Home Estates Park north along Clear Creek approximately 2 miles. Minimum parcel sizes within all other areas designated as Rural Residential A shall be 20 acres.
Implementation: Zoning ordinance.

Part Four
OVERALL
IMPLEMENTATION
PROGRAM



INTRODUCTION

Implementation of the Shasta County General Plan will require a major commitment of public and private resources. Without this commitment, adoption of the General Plan is an empty gesture. Throughout Parts Two and Three of the General Plan, each policy is followed by a brief description of the steps necessary for its implementation. This part of the Plan compiles these individual implementation measures into an overall program shown in Table OIP-1 which addresses Part Two, and Table OIP-2 which addresses Part Three. Each table is keyed to the various policies and describes the implementing action, time frame for implementation, responsible agency, and fiscal implications for the responsible agency.

These tables have a twofold purpose. One, they show the overall magnitude and scope of what will be required to implement the General Plan. Two, they provide a convenient checklist for assigning responsibilities and monitoring progress. It is anticipated that these tables will be updated during Plan revisions.

In examining these tables the reader will note the frequency of references requiring zoning ordinance revision. Nothing short of a comprehensive and thorough overhaul of the County's zoning ordinance is required, both to remedy existing deficiencies as well as implement the Plan. Ideally, this revision, including final action by the Board of Supervisors, should be accomplished within one year of adoption of the Plan. Since the role of the zoning ordinance is to implement adopted policies, this is a reasonable goal, but its achievement will require a substantial, though short-term expenditure of staff resources.

A zoning revision or "rezoning" of the magnitude described above inevitably and understandably raises concerns among property owners regarding its impact on property values. The particular zoning of a parcel of land does help establish its value in the marketplace, although other factors also come into play. As a result of the rezonings prescribed in Table OIP-1 and OIP-2, some properties in Shasta County will decline in market value, others will increase, and others will remain unaffected. In evaluating this situation, it is important to keep in mind certain legal principles governing the law of land use regulation.

It is a well-established principle of law that property owners have no legally protected or "vested" right to the maintenance of the existing zoning of property. It is also well-established that a diminution of property values as the result of a proper rezoning is not legally compensable by the cognizant government agency. Likewise, government cannot expect payment for enhancement of property values occasioned by rezonings. These principles are founded on the importance of a local government's ability to exercise its police power to advance the legitimate interests of the whole community. These principles are also founded on the fact that whatever value is lost or gained by a rezoning was initially gained or lost through a prior exercise of the police power.

OBJECTIVES

During the planning process, considerable dissatisfaction was expressed concerning the manner in which this process had operated in the past, especially in regard to the implementation of the General Plan. These concerns are expressed below in the form of several statements. While these statements are called Objectives, some of them are more in the nature of policies. In either case, their function is to provide guidelines for the implementation of the General Plan and the operation of the planning process.

- CDI-1 Recognition of planning as a comprehensive process that is derived from public policies clearly stated in the General Plan and includes the application of these policies to lands within the County through zoning, subdivision, and other regulations.
- CDI-2 A General Plan which is both internally consistent among all its elements and which provides the policy basis for the zoning, subdivision, and other implementing ordinances.
- CDI-3 Public trust and confidence that the General Plan, and its constituent objectives, policies, and standards, shall be faithfully adhered to and equitably applied to all land use matters.
- CDI-4 Public assurance that the General Plan shall be applied in a manner that responds to local conditions and local concerns through the interpretation of its policies, but only within well-defined and understood limits intended to preserve the overall integrity of the plan.
- CDI-5 A planning process that resists short-term pressures exerted by narrow interests to modify the General Plan, but is capable of thoughtfully responding to significantly changed conditions or shifts in community values.
- CDI-6 Administration of the planning process which is characterized by:
 - The efficient and expeditious handling of planning matters through the coordination of the various cognizant agencies of County government.
 - Timely and decisive action on all planning matters.
 - Adequate staff resources to support both current and continuing long-range planning.
 - Timely notification of persons who will be affected by or who are interested in planning matters.
- CDI-7 Formulation and operation of an institutional framework for coordinated planning, including review and action on

planning matters, between federal, state, County, municipal, and special purpose government agencies in Shasta County.

- CDI-8 A planning process which is accessible to all citizens of Shasta County, regardless of economic circumstances, place of residence, race, age, and sex.
- CDI-9 A planning process that has the personnel and data resources to competently and objectively assess the impacts, including cumulative impacts, of planning matters.
- CDI-10 A planning process which recognizes the continuing need for citizen review of the objectives, policies, and standards contained in the General Plan.

TABLE OIP-1:

SHASTA COUNTY GENERAL PLAN OVERALL IMPLEMENTATION PROGRAM
COUNTYWIDE ELEMENTS

<u>Policy</u>	<u>Action</u>	<u>Timing</u>	<u>Responsible Agency</u>	<u>Fiscal Implications</u>
SG-a	Monitoring of building permits for critical and high density structures	On-going	Building Inspection	
SG-b	Maintenance of landslide map	On-going	Public Works	
SG-c	Volcanic activity monitoring	On-going	Office of Emergency Services	
SG-d	Adopt erosion control standards	Within one year of Plan adoption	Public Works, County Counsel	May require funding for additional study
SG-e	Mitigate impacts of expansive soils	On-going	Building Inspection	
FL-a	Review flood-plain zoning	Within one year of Plan adoption	Planning Department, County Counsel	
FL-b,c	Design of flood control measures	On-going	Public Works	
FL-d	Emergency preparedness plans	On-going	Office of Emergency Services	
FL-e	Monitoring of building permits for critical and high density structures	On-going	Building Inspection	
FL-f	Reporting of flood hazard data	On-going	Planning Department	
FL-g	Maintain flood hazard maps	On-going	Office of Special Districts	

<u>Policy</u>	<u>Action</u>	<u>Timing</u>	<u>Responsible Agency</u>	<u>Fiscal Implications</u>
FL-h	Development referrals in flood hazard areas	On-going	County Water Agency	
DI-a	Dam failure inundation zoning	ASAP	Planning Department	
DI-b	Maintain dam failure inundation maps	On-going	Office of Emergency Services	
DI-c	Preparation of new inundation maps	As needed	County Water Agency, Office of Emergency Services	
DI-d	Emergency preparedness planning	On-going	Office of Emergency Services	
FS-a	Fire safety standards for subdivisions	On-going	County Fire Department	
FS-b	Report fire hazard data	On-going	Planning Department	
FS-c	Fire hazards maps	On-going	Planning Department	
FS-d	Sheriff's review of proposed subdivisions	On-going	County Sheriff	
FS-e	Site planning of new development for crime prevention	On-going	Planning Department	
N-a,b	Environmental review of noise impacts of new development	On-going	Planning Department	
N-c	Mitigating noise impacts of circulation improvements	On-going	Public Works	
N-d	Site planning of new development for noise impact mitigation	On-going	Planning Department	
HM-a	Notification of possible hazardous waste facilities	On-going	Planning Department	
HM-b	Identification of potential hazardous waste and border zone properties	On-going	Environmental Health Department	

<u>Policy</u>	<u>Action</u>	<u>Timing</u>	<u>Responsible Agency</u>	<u>Fiscal Implications</u>
HM-c	Emergency preparedness planning	Within one year of Plan adoption	Office of Emergency Services	
AG-a,b,d,e	Zoning ordinance revisions for agricultural lands and nonagricultural uses on agricultural lands	Within one year of Plan adoption	Planning Department, County Counsel	Requires additional staff time to draft revisions; also requires major mapping effort
AG-c	Review of existing and potential agricultural lands	Every five years	Planning Department, Agricultural Advisory Committee	Requires additional staff time for review work plus coordination of committee
AG-f	Extension of community water supply and wastewater treatment to agricultural lands	On-going	Subdivision Map Review Committee	
AG-g	Regulations governing division of agricultural lands	On-going	Subdivision Map Review Committee	
AG-h	Zoning ordinance revisions for Williamson Act lands	Within one year of Plan adoption	Planning Department, County Counsel	Requires additional staff time; may increase amount of lands under contract
AG-i	Site planning of non-agricultural uses in agricultural areas	On-going	Subdivision Map Review Committee	
AG-j	Update environmental review procedures	Within one year of Plan adoption	Planning Department	
T-a,b,c,d	Zoning ordinance revisions for timberlands	Within one year of Plan adoption	Planning Department, County Counsel	Requires additional staff time; may increase amount of lands in timber preserve zoning
T-e	Adoption of compatible classification of lands adjacent to timberlands	Coincides with adoption of Plan	Planning Department	

<u>Policy</u>	<u>Action</u>	<u>Timing</u>	<u>Responsible Agency</u>	<u>Fiscal Implications</u>
T-f,h	County promotion of reforestation and utilization of wood wastes	Within one year of Plan adoption	Board of Supervisors Resolution	
T-g	Reassessment of County's timber resources	Every five years	Planning Department	
M-a,b,c,e	Zoning ordinance revisions for mineral extraction, development of compatible uses, and reclamation plans	Within one year of Plan adoption	Planning Department, County Counsel	
M-d	Application of mineral resource category to state designated lands	As needed	Planning Department	
E-a	Review for solar access in new development	On-going	Subdivision map review committee	
E-b	Promulgation of energy information	On-going	County Library	
E-c,d,e	Energy conserving development pattern	Coincides with adoption of Plan	Planning Department	
E-f	Review County energy consumption	Within one year of Plan adoption	Executive Officer	May result in savings to County
E-g	Promote recycling of solid waste	On-going	Public Works	May result in savings to County
E-h	Review County ordinances to eliminate barriers to better energy use	Within one year of Plan adoption	Planning Department, County Counsel	
E-i	Promote job producing energy projects	On-going	Board of Supervisors	
E-j	Promote education to achieve energy objectives	On-going	County Schools, Library	

<u>Policy</u>	<u>Action</u>	<u>Timing</u>	<u>Responsible Agency</u>	<u>Fiscal Implications</u>
A-a	Consider air quality impacts of land use decisions	On-going	Planning Department	
A-b	Maintenance of air quality standards	On-going	Environmental Health Department, Board of Supervisors	
A-c	Improve air quality monitoring capabilities	Within one year of Plan adoption	Environmental Health Department	Requires additional equipment and personnel
A-d	Emergency preparedness planning	On-going	Office of Emergency Services	
A-e	Upgrade road standards in SCR to require paving of new roads	Within one year of Plan adoption	Public Works	May increase County maintenance costs if County continues policy of accepting any paved road into County maintained system
W-a	Identify and preserve groundwater recharge areas	On-going	County Water Agency, Planning Department	Requires funding to study recharge areas
W-b	Adopt erosion control standards	Within one year of Plan adoption	Public Works	
W-c	Prevent water pollution caused by septic systems	On-going	Environmental Health Department	
W-d	Prevent water pollution by fertilizers, pesticides, etc.	On-going	State Agencies	
FW-a,b,f	Revise zoning ordinance for protection of habitats, river and creekside corridors	Within one year of Plan adoption	Planning Department	Requires additional staff
FW-c,d	Notification of authorities with habitat impacts, requirements for environmental impact reports	On-going	Planning Department	

<u>Policy</u>	<u>Action</u>	<u>Timing</u>	<u>Responsible Agency</u>	<u>Fiscal Implications</u>
FW-e	Regulation of pesticides and herbicides	On-going	State Agencies	
FW-g,h	Follow guidelines on public and private development of water projects or adjacent lands	On-going	Board of Supervisors	
SH-a,f,g	Adopt guidelines for new development in scenic corridors	Within one year of Plan adoption	Planning Department	
SH-b	Adopt resolution on underground utilities	Within one year of Plan adoption	Board of Supervisors	
SH-c,d,e	Revise County's sign regulations	Within one year of Plan adoption	Planning Department, County Counsel	
SH-h	Regulate location of new industrial and commercial operations along scenic corridors	On-going	Planning Department	
SH-i,j	Roadside recreation facilities along scenic highways	Project basis	Public Works	Requires County capital improvements funding
SH-k	Establish design themes in Town and Rural Community Centers	On-going	Planning Department	
SH-l	Coordinate scenic highway development	On-going	Planning Department	
SH-m	Review of existing and potential, eligible scenic highways	Every five years	Planning Department	
OSR-a	Revision of zoning ordinance	Within one year of Plan adoption	Planning Department	Requires additional staff time

<u>Policy</u>	<u>Action</u>	<u>Timing</u>	<u>Responsible Agency</u>	<u>Fiscal Implications</u>
OSR-b,e	Coordination among Federal, State, County, and City agencies	On-going	County Recreation Commission	
OSR-c	Development of trails system	On-going	County Recreation Commission	
OSR-d	Transmission of request for study of riparian habitats	Within one year of Plan adoption	County Recreation Commission	
OSR-f,g	Revise zoning ordinance to protect significant recreation resources and for commercial recreation	Within one year of Plan adoption	Planning Department	Requires additional staff time
OSR-h	Provide public access along significant river and creekside corridors	On-going	Subdivision Map Review Committee	
HER-s	Maintain heritage resources inventory map	On-going	Heritage Resources Review Committee	
HER-b,d	Regulation of impacts of development on heritage resources	On-going	Planning Department	
HER-c	Establish Heritage Resources Review Committee	Within one year of Plan adoption	Board of Supervisors	
CO-a,e,f,g,i	Revise zoning ordinance to ensure adequate developable land supply for residential, commercial, industrial, growth reserve	Within one year of Plan adoption	Planning Department, County Counsel	Requires additional staff time plus major mapping effort
CO-b	Monitoring and reporting on land supply consumption	Once a year	Planning Department	
CO-c,d	Revise General Plan and amendments as required	Every five years	Planning Department	Requires additional staff time
CO-h	Develop land capability analysis	Within one year of Plan adoption	Planning Department, County Counsel	

<u>Policy</u>	<u>Action</u>	<u>Timing</u>	<u>Responsible Agency</u>	<u>Fiscal Implications</u>
CO: (SC)-a,b; (NF)-a; (BB)-a,b; (NS)-a,b, c,d; (LS)-a,b; (EF)-a,b; (EU)-a,b; (SCR)-a,b, c,d,e; (WU)-a,b; (FG)-a.	Revise zoning ordinance to reflect specific development policies for 10 planning areas	Within one year of Plan adoption	Planning Department	Requires additional staff time plus major mapping effort
ED-a,i	Revise zoning ordinance to ensure adequate land supply for employment purposes, especially industrial lands	Within one year of Plan adoption	Planning Department	Requires additional staff time
ED-b	Review of employment generating projects relative to housing opportunities	On-going	Planning Department	
ED-c	Encourage new businesses and industrial firms to locate in Urban, Town, and Rural Community Centers	On-going	Planning Department	
ED-d,e, f,g,h	Adoption of General Plan policies supportive of economic development	Coincides with Plan adoption	Board of Supervisors	
H-a,b	Revise zoning ordinance to ensure adequate supply of land for housing, and consistency between plan and zoning ordinance	Within one year of Plan adoption	Planning Department, County Counsel	
H-c	Establish central permit agency for residential development	Within one year of Plan adoption	Planning Department	

<u>Policy</u>	<u>Action</u>	<u>Timing</u>	<u>Responsible Agency</u>	<u>Fiscal Implications</u>
H-d	Develop incentive program for construction of low and moderate cost housing; administer sale and rental of units constructed	Within one year of Plan adoption	Planning Department, Housing Authority	
H-e	Encourage use of manufactured housing	On-going	Planning Department, Housing Authority	
H-f	Expand function of Housing Authority to disseminate information and organizational skills	Within one year of Plan adoption	Housing Authority	Requires additional staff
H-g	Revise housing element	By July 1, 1984, and every five years thereafter	Planning Department, Housing Authority	
C-a	Develop and maintain coordinated, inter-jurisdictional circulation planning	On-going	Public Works, Planning Department	
C-b	Adoption of functional hierarchy for circulation roadway network	Coincides with Plan adoption	Public Works	
C-c	Construction of highway and road improvements	On-going	Public Works	Will require County funding of off-site improvements not covered by project developers
C-d	Protect lands with rail accessibility	On-going	Public Works, Planning Department	
C-e	Adoption of Redding Airport Specific Plan	Upon completion of Plan	Board of Supervisors	
C-f	Conform development to transit corridor policy	On-going	Planning Department, Public Works	
C-g,h	Incorporate pedestrian and bicycle circulation in urban residential developments	On-going	Subdivision Map Review Committee	

<u>Policy</u>	<u>Action</u>	<u>Timing</u>	<u>Responsible Agency</u>	<u>Fiscal Implications</u>
C-i	Integration of trails in new development in SCR area	On-going	Subdivision Map Review Committee	
C-j	Provide new development with emergency access and evacuation circulation	On-going	Subdivision Map Review Committee	
C-k	Consider noise impacts of circulation system development	On-going	Public Works	
C-l	Support formation of assessment districts to pave unpaved roads	On-going	Office of Special Districts	
C-m	Revise Subdivision Standards to require paved roads for new development in SCR	Within one year of Plan adoption	Public Works	
WS-a,b	Revise zoning and subdivision ordinances to locate future development according to water supply	Within one year of Plan adoption	Planning Department, County Counsel	Requires additional staff time
WS-c	Develop Countywide mechanism for managing water resources	Within two years of Plan adoption	County Water Agency	
WS-d	Develop water conservation guidelines	Within one year of Plan adoption	County Water Agency	
WS-e	Develop well monitoring programs in designated areas	On-going	County Water Agency	
WS-f	Request federal and state agencies to undertake studies of water resources	On-going	County Water Agency	

<u>Policy</u>	<u>Action</u>	<u>Timing</u>	<u>Responsible Agency</u>	<u>Fiscal Implications</u>
WT-a,c	Revise zoning and subdivision ordinances to locate future development according to wastewater treatment availability	Within one year of Plan adoption	Planning Department, County Counsel	Requires additional staff time
WT-b	Develop area-wide wastewater treatment system in SCR	With two years of Plan adoption	County Water Agency, Public Works	
WT-d	Develop Countywide system to document septic tank performance	Within one year of Plan adoption	Environmental Health Department	Requires additional staff
WT-e	Regulate experimentation with "alternative" wastewater treatment systems	On-going	Environmental Health Department	
SW-a	Implement solid waste management Plan	On-going	Public Works	
WS-b	Provide septic tank disposal facilities in vicinity of Fall River Mills Treatment Plant	Within five years of Plan adoption	Public Works	Requires capital improvements fundings
SLR-a	Co-operative planning with school districts	On-going	Planning Department, County School Board	
SLR-b	Planning for County-owned library in Central Valley and monitor library needs in other areas	On-going	County Library	Requires capital improvements funding
SLR-c	Revise subdivision ordinance to require parklands dedication	Within one year of Plan adoption	Planning Department, County Counsel	
CD-a through n	Develop community design standards for review of development projects	Within one year of Plan adoption	Planning Department	

TABLE OIP-2:

SHASTA COUNTY GENERAL PLAN OVERALL IMPLEMENTATION PROGRAM
COMMUNITY PLANS

<u>Policy</u>	<u>Action</u>	<u>Timing</u>	<u>Responsible Agency</u>	<u>Fiscal Implications</u>
South Dunsmuir				
a	Revise zoning ordinance	Within one year of Plan adop- tion	Planning Department	Requires addi- tional staff time
b	Survey housing conditions	Within one year of Plan adop- tion	Housing Authority	
c	Site plan review of NR-R lands	On-going	Planning Department	
Castella/ Sweetbriar				
a	Revise zoning ordinance	Within one year of Plan adop- tion	Planning Department	
b	Site plan review of NR-R lands	On-going	Planning Department	
Lakehead				
a	Revise zoning ordinance to reflect community development pattern and resources	Within one year of Plan adop- tion	Planning Department	Requires addi- tional staff time
b	Site plan review of NR-R lands	On-going	Planning Department	
c	Capital improvements programming should recognize potential enlargement of Shasta Dam	On-going	Public Works	

<u>Policy</u>	<u>Action</u>	<u>Timing</u>	<u>Responsible Agency</u>	<u>Fiscal Implications</u>
Lakeshore				
a	Revise zoning ordinance to reflect community development pattern and resources	Within one year of Plan adoption	Planning Department	Requires additional staff time
b	Site plan review of NR-R lands	On-going	Planning Department	
c	Capital improvements programming should recognize potential enlargement of Shasta Dam	On-going	Public Works	
Round Mountain				
a	Revise zoning ordinance to reflect community development pattern and resources	Within one year of Plan adoption	Planning Department	Requires additional staff time
b	Site plan review of creekside development	On-going	Planning Department	Requires additional staff time
Montgomery Creek				
a	Revise zoning ordinance to reflect community development pattern and resources	Within one year of Plan adoption	Planning Department	Requires additional staff time
b	Site plan review of creekside development	As needed	Planning Department	
Big Bend				
a	Revise zoning ordinance to reflect community development pattern and resources	Within one year of Plan adoption	Planning Department	Requires additional staff time

<u>Policy</u>	<u>Action</u>	<u>Timing</u>	<u>Responsible Agency</u>	<u>Fiscal Implications</u>
b	Review of landslide hazard along Hagen Flat Road	As needed	Public Works	
Burney/ Johnson Park				
a	Undertake drainage study	Immediately	County Water Agency	Requires County funding
b	Site plan review of creekside development	As needed	Planning Department	
c	Revise zoning ordinance to reflect community development pattern and resources	Within one year of Plan adoption	Planning Department	Requires additional staff time
d	Provide water service to future development	As needed	Burney County Water District, Johnson Park Water Company	Requires capital improvements funding
e	Provide wastewater treatment to future development	As needed	Burney County Water District	Requires capital improvements funding
f	Study need for community wastewater treatment in Johnson Park	Within one year of Plan adoption	Burney County Water District, Environmental Health Department	Requires Water District and County funding
g	Specific plan for development along Route 299 corridor	When required by development	Planning Department	Requires additional staff time; should be reimbursed by developer(s)
h	Zoning ordinance revisions to reserve industrial lands	Within one year of Plan adoption	Planning Department	Requires additional staff time
i	Review of BARC suggested circulation improvements	Within one year of Plan adoption	Public Works	Requires additional staff time
j	Construction of collector loop roads	As funding availability permits	Public Works	May require capital improvements funding

<u>Policy</u>	<u>Action</u>	<u>Timing</u>	<u>Responsible Agency</u>	<u>Fiscal Implications</u>
k	Provision of school facilities	As needed	Fall River Joint Unified School District	Requires capital funding
i	Development of community park	Within one year of Plan adoption	Burney County Water District	May require capital funding
Fall River Mills/ McArthur				
a	Revise zoning ordinance to reflect community development pattern and resources	Within one year of Plan adoption	Planning Department	Requires additional staff time
b,c	Site plan review of riverside development	As needed	Planning Department	
d	Specific plan for Rural Residential A development west of Fall River Mills	As required by development	Planning Department	Requires additional staff time; should be reimbursed by developer
e	Revise zoning ordinance regarding development of agricultural lands north of Route 299	Within one year of Plan adoption	Planning Department	
f	Provision of community water to future development	As required by development	Fall River Mills CSD	Requires capital funding
g	Provision of wastewater treatment to future development	As required by development	Fall River Mills CSD	Requires capital funding
h	Study need for extending Fall River wastewater treatment system to McArthur	Within one year of Plan adoption	Fall River CSD, Environmental Health Department	Requires district and County Funding
i	Provide school facilities	As required by development	Fall River Joint Unified School District	Requires capital funding

<u>Policy</u>	<u>Action</u>	<u>Timing</u>	<u>Responsible Agency</u>	<u>Fiscal Implications</u>
Hat Creek				
a	Revise zoning ordinance to reflect community development pattern and resources	Within one year of Plan adoption	Planning Department	Requires additional staff time
b	Site plan review of creekside development	As needed	Planning Department	
c	Review of development along scenic corridor	As needed	Planning Department	
d	Establish voluntary well monitoring	Within one year of Plan adoption	County Water Agency	Requires additional staff time
Cassel				
a	Revise zoning ordinance to reflect community development pattern and resources	Within one year of Plan adoption	Planning Department	Requires additional staff time
b	Site plan review of creekside development	As needed	Planning Department	
Old Station	Revise zoning ordinance to reflect community development pattern and resources	Within one year of Plan adoption	Planning Department	Requires additional staff time
Shingletown				
a	Revise zoning ordinance to reflect community development pattern and resources	Within one year of Plan adoption	Planning Department	Requires additional staff time
Millville				
a,b,c	Revise zoning ordinance to reflect community development pattern and resources	Within one year of Plan adoption	Planning Department	Requires additional staff time
Oakrun				
a	Revise zoning ordinance to reflect community development pattern and resources	Within one year of Plan adoption	Planning Department	Requires additional staff time

<u>Policy</u>	<u>Action</u>	<u>Timing</u>	<u>Responsible Agency</u>	<u>Fiscal Implications</u>
Whitmore a	Revise zoning ordinance to reflect community development pattern and resources	Within one year of Plan adoption	Planning Department	Requires additional staff time
Anderson a,g	Establish joint city-County planning agreement	Within one year of Plan adoption	Board of Supervisors	
b	Growth accommodation within Anderson	1981-2000	Anderson City Council	Requires capital improvements funding
c,e,f	Revise zoning ordinance to reflect community development pattern and resources	Within one year of Plan adoption	Planning Department	Requires additional staff time
d	Adoption of Airport Specific Plan	Upon completion	Board of Supervisors	
Redding a,c,d,e, h,i,j	Establish city-County joint planning agreements	Within one year of Plan adoption	Board of Supervisors	
b	Growth accommodation within Redding	1981-2000	Redding City Council	Requires capital improvements funding
f	Adoption of Airport Specific Plan	Upon completion	Board of Supervisors	
g	Revise zoning ordinance to reflect community development pattern and resources	Within one year of Plan adoption	Planning Department	Requires additional staff time
Central Valley Safety a	Revise zoning ordinance to address hillside development	Within one year of Plan adoption	Planning Department, County Counsel	

<u>Policy</u>	<u>Action</u>	<u>Timing</u>	<u>Responsible Agency</u>	<u>Fiscal Implications</u>
b	Undertake drainage study	Within one year of Plan adoption	County Water Agency	Requires County funding
c	Support fire district consolidation	On-going	Board of Supervisors	
d	Consider noise impacts when siting future development	On-going	Planning Department	
e	Revise zoning ordinance for hazardous waste zone	Within one year of Plan adoption	Planning Department, County Counsel	
f	Monitor water quality impacts of septic systems	On-going	Environmental Health Department	
Resources				
a	Regulate mineral extraction operations	On-going	Planning Department	
b	Site plan review of creekside development	On-going	Planning Department	
c	Request scenic corridor study of remainder of Shasta Dam Boulevard	Within one year of Plan adoption	Board of Supervisors	
d	Recognition of heritage resources	On-going	Heritage Resources Commission	
Community Development				
a	Revise zoning ordinance to reflect community development pattern and resources	Within one year of Plan adoption	Planning Department	Requires additional staff time

<u>Policy</u>	<u>Action</u>	<u>Timing</u>	<u>Responsible Agency</u>	<u>Fiscal Implications</u>
b	Undertake incorporation study	Within one year of Plan adoption	Shasta Dam Area PUD, Shasta County supervised by LAFCO	Requires PUD and County funding
c	Prepare specific plan of Shasta Dam Boulevard	Within one year of Plan adoption	Planning Department	Requires additional staff time
d	Conduct housing conditions survey	Within one year of Plan adoption	Housing Authority	Requires additional staff time
e	Respect integrity of existing communities and neighborhoods	On-going	Subdivision Map Review Committee	
f	Construct circulation improvements	As funding permits	Public Works	Requires capital improvement funding
g	Provide community water supply and wastewater treatment to new development	As needed	Shasta Dam Area PUD	Requires capital improvements funding
h	Provide school, library, and recreation facilities	As needed	School District, County Library, Shasta Dam Area PUD	Requires capital funding
Cotton-wood Safety a	Support community wastewater treatment systems	On-going	Board of Supervisors	
Resources a,b	Revise zoning to preservation of agricultural and heritage resources	Within one year of Plan adoption	Planning Department, County Counsel	

<u>Policy</u>	<u>Action</u>	<u>Timing</u>	<u>Responsible Agency</u>	<u>Fiscal Implications</u>
Community Development				
a	Revise zoning ordinance to reflect community development pattern and resources	Within one year of Plan adoption	Planning Department	Requires additional staff time
b	Provide community wastewater only to urban and suburban development	On-going	Subdivision Map Review Committee	
c	Revise zoning ordinance to confine new commercial development to townsite	Within one year of Plan adoption	Planning Department	Requires additional staff time
d	Provide new development in townsite with community water supply	As needed	Cottonwood County Water District	Requires capital funding
e	Construct circulation improvements	As funding permits and development requires	Public Works	Requires capital funding
Bella Vista a,c,e	Revise zoning ordinance to reflect community development pattern and resources	Within one year of Plan adoption	Planning Department	Requires additional staff time
b	Provide new development with community water supply	As needed	Bella Vista Water District	Requires capital funding
d	Site plan review of creekside development	As needed	Planning Department	

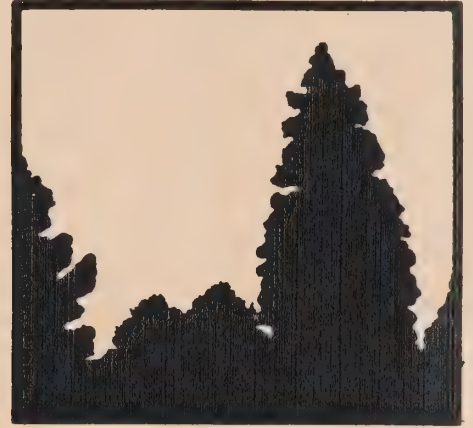
<u>Policy</u>	<u>Action</u>	<u>Timing</u>	<u>Responsible Agency</u>	<u>Fiscal Implications</u>
Center-ville Resources				
a,b	Site plan review of creekside development and other natural features	As needed	Planning Department	
c	Revise zoning regarding gravel extraction along Clear Creek Road	Within one year of Plan adoption	Planning Department, County Counsel	
d	Site plan review to protect value of Centerville-Middletown Cemetary	On-going	Planning Department	
Communi-ty Devel-opment				
a,b,c	Revise zoning ordinance to reflect community development pattern and resources	Within one year of Plan adoption	Planning Department	Requires additional staff time
c	Site plan review of commercial center	As needed	Planning Department	
d	Construct automobile circulation improvements	As needed and funding availability permits	Public Works	Requires capital funding
e	Designate trails	Coincides with Plan adoption	County Recreation Commission	
f	Encourage BLM to consider open space land management recommendations	Within one year of Plan adoption	Board of Supervisors	

<u>Policy</u>	<u>Action</u>	<u>Timing</u>	<u>Responsible Agency</u>	<u>Fiscal Implications</u>
Happy Valley Resources				
a	Preserve canyon areas	On-going	Subdivision Map Review Committee	
b	Zoning ordinance revision to preserve agricultural lands	Within one year of Plan adoption	Planning Department	
Community Development				
a,b,c	Revise zoning ordinance to reflect community development pattern and resources	Within one year of Plan adoption	Planning Department	Requires additional staff time
d	Provide for parklands dedication, trails designation	Coincides with Plan adoption	Subdivision Map Review Committee	
f	Construct circulation improvements	As needed and funding availability permits	Public Works	Requires capital funding
g	Provide new development with community water supply	As needed	Clear Creek CSD	Requires capital funding
h	Confine new development to on-site wastewater treatment	On-going	Subdivision Map Review Committee	
Jones Valley				
a,c	Revise zoning ordinance to reflect community development pattern and resources	Within one year of Plan adoption	Planning Department	Requires additional staff time
b	Provide new development with community water supply	As needed	Jones Valley Water Company	Requires capital funding

<u>Policy</u>	<u>Action</u>	<u>Timing</u>	<u>Responsible Agency</u>	<u>Fiscal Implications</u>
Mountain Gate a,b,d	Revise zoning ordinance to reflect community development pattern and resources	Within one year of Plan adoption	Planning Department	Requires additional staff time
c	Provide new development with community water supply	As needed	Mountain Gate CWD	Requires capital funding
Shasta/ Keswick a,c	Revise zoning ordinance to reflect community development pattern and resources	Within one year of Plan adoption	Planning Department	Requires additional staff time
b	Provide new development with community water supply	As needed	Shasta or Keswick CSD	Requires capital funding
d	Conduct housing conditions survey	Within one year of Plan adoption	County Housing Authority	Requires additional staff
e	Construct circulation improvements	As needed and availability of funding permits	Public Works	Requires capital funding
Palo Cedro a,b,e,g	Revise zoning ordinance to reflect community development pattern and resources	Within one year of Plan adoption	Planning Department	Requires additional staff time
c	Provide community water supply to new development	As needed	Bella Vista Water District	Requires capital funding
d	Confine provision of community wastewater treatment to CSA no.8	On-going	Office of Special Districts	
f	Site plan review of creekside development	As needed	Planning Department	

<u>Policy</u>	<u>Action</u>	<u>Timing</u>	<u>Responsible Agency</u>	<u>Fiscal Implications</u>
Igo a,b	Requires additional staff time	Within one year of Plan adoption	Planning Department	Requires additional staff time
c	Mitigate impacts on Happy Valley Irrigation Canal	On-going	Subdivision Map Review Committee	
d	Development of sanitary landfill site	Within one year of Plan adoption	Public Works	Requires capital funding
Ono a	Revise zoning ordinance to reflect community development pattern and resources	Within one year of Plan adoption	Planning Department	Requires additional staff time
b	Site plan review of creekside development	As needed	Planning Department	
Platina a	Revise zoning ordinance to reflect community development pattern and resources	Within one year of Plan adoption	Planning Department	Requires additional staff time
French Gulch a,c	Revise zoning ordinance to reflect community development pattern and resources	Within one year of Plan adoption	Planning Department	Requires additional staff time
b	Protect heritage resources	As needed	Heritage Resources Commission	

Part Five
ENVIRONMENTAL
IMPACTS



INTRODUCTION

According to the California Environmental Quality Act (CEQA) a proposed general plan constitutes a project which may "significantly"¹ effect "the environment"². By law, the local jurisdiction is therefore required to prepare an Environmental Impact Report (EIR) which addresses the topics outlined in Article 9 of the State EIR Guidelines listed below:

- Description of the project (Government Code Section 15141).
- Description of the environmental setting (Government Section 15142).
- The significant environmental effects of the proposed project (Government Code Section 15143(a)).
- Any significant environmental effects which cannot be avoided if the proposal is implemented (Government Code Section 15143(b)).
- Mitigation measures proposed to minimize the significant effects (Government Code Section 15143(c)).
- Alternatives to the proposed action (Government Code Section 15143 (d)).
- The relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity (Government Code Section 15143(e)).
- Any significant environmental changes which would be involved in the proposed action should it be implemented (Government Code Section 15143(f)).
- The growth inducing impact of the proposed action (Government Code Section 15143(g)).
- Effects found not to be significant (Government Code Sections 15143.5).

¹Determination of "significant effect" is left to the local public entity preparing an EIR but should be based to the extent possible, on scientific and factual data. An iron clad definition is not possible because significance will vary considerably with changes in environmental setting (California Government Code Section 15081).

²"Environment means the physical conditions which exist within the area which will be affected by a proposed project including air, land, water, minerals, flora, fauna, ambient noise, (and) objects of historic or aesthetic significance" (California Government Code Section 15026).

- A list of organizations and persons consulted (Government Code Section 15144).

Despite the fact that a general plan and an EIR are legally distinct documents, their concerns and methods of preparation overlap considerably. For this reason, Section 15148 of the California Government Code allows a jurisdiction to integrate the EIR with the local general plan provided that the plan also contains a separate section which identifies where each EIR requirement is addressed. The Shasta County General Plan follows this approach.

Because of the nature of a general plan, the EIR for such a document need not be as specific as an EIR for an individual project.

"The degree of specificity required in an EIR will correspond to the degree of specificity involved in the underlying activity which is described in the EIR" (Title 14, California Administrative Code Section 15147).

The General Plan EIR "need not be as detailed as an EIR on the specific construction projects that might follow" (Government Code Section 15147(b)) but it should, however, address both the primary and secondary impacts of the plan.

Primary impacts are those immediately related to the project, such as the population growth which is facilitated by the construction of a wastewater treatment plant. Secondary or indirect impacts are defined as effects which are related more to a primary impact than to the project itself. Continuing the above example, a secondary effect would be impacts on land, air or water resources which are the result of population growth.

Because a majority of the EIR requirements have already been met and incorporated into the General Plan itself, this section of the Plan functions primarily as a reference document. It identifies the General Plan chapters and/or sections where EIR requirements are addressed and summarizes significant impacts and mitigation measures.

OVERALL SUMMARY OF ENVIRONMENTAL ISSUES

The Shasta County General Plan is designed to achieve a reasonable balance between the long term preservation of the environment as man's natural resource base and its short-term use by present and future generations to accommodate their legitimate needs. In striking this balance, the Plan will have significant, adverse impacts on this natural resource base. While these impacts may be mitigated, they cannot be eliminated in all cases. These unavoidable significant impacts include:

- Destruction of some fish, wildlife, and vegetation habitats, with particular impacts on the habitat of the Day Bench deer herd.
- Consumption of land resources required by new housing and circulation impacts.
- Destruction of some heritage resources.
- Degradation of air quality.
- Increased consumption of nonrenewable energy resources.
- Increased public service demands.

These impacts are more completely described below and in the Plan and its appendices. They frame the major environmental issues which must be resolved concurrent with the adoption of the General Plan.

DESCRIPTION OF THE PROJECT

STATE REQUIREMENTS

"First, the EIR should identify the jurisdiction's location and the boundaries of the planning area. Additionally, it should summarize the major policies and objectives of the plan if the EIR is prepared as a separate document" (State General Plan Guidelines).

LOCATION AND BOUNDARIES

Part One: Preface

- Introduction
 - Organization and Use: "Plan Maps and their Interpretation"
 - Figure PRE-3
 - Planning Area Maps
- Framework for Planning
 - Natural Environment

MAJOR POLICIES AND OBJECTIVES

Part One: Preface

- The General Plan Concept
 - Objectives

Part Two: Countywide Elements

- Public Safety Group
 - See Individual Elements: "Policies"
- Resources Group
 - See Individual Elements: "Policies"
- Community Development Group
 - See Individual Elements: "Policies"

ENVIRONMENTAL SETTING AND IMPACTS

SOILS/TOPOGRAPHY/ GEOLOGY

This subject area addresses potential risks (impacts) to life and property associated with unstable soils, erosion, landslides, and earthquakes as a result of the development pattern proposed by the General Plan. This section also addresses the potential impacts of the General Plan on the quantity and quality of prime agricultural soils in Shasta County.

Conditions and Impacts

Part One: Preface

- Framework for Planning
 - Natural Environment

Part Two: Countywide Elements

- Public Safety Group
 - Seismic and Geologic Hazards: "Findings"

- Resources Group
 - Agricultural Lands: "Findings"

Appendices

- Appendix G: Geology and Seismicity

Summary

SEISMIC AND GEOLOGIC. Like all of California, Shasta County is a seismically active region. However, earthquake activity has not been a serious hazard in Shasta County's history, nor is it expected to become a serious hazard in the future. The California Division of Mines and Geology presently does not place any fault in Shasta County within an Alquist-Priolo Special Study Zone.

Ground shaking is considered to be potentially the most hazardous effect of earthquakes, yet in the past 120 years there has been no significant property damage or loss of life due to earthquakes outside or within the County. Maximum recorded intensities have reached Modified Mercalli VIII and would typically occur in the eastern half of the County near Lassen Peak. A maximum of Modified Mercalli VII is expected for the western half of the County.

Ground failure due to landslides is not considered a major problem in Shasta County although they do occur in the eastern and northern portions. Liquefaction, another type of ground failure, is most likely to occur on alluvial soils such as those along the river banks in the SCR Planning Area.

The danger from volcanic activity on Mt. Shasta and Mt. Lassen may result from mudflows as opposed to an actual eruption. While the potential exists, it is doubtful that such mudflows would endanger Shasta County. Further, the U.S. Geological Survey and the State of California monitor Lassen Peak and Mt. Shasta for seismic activity. Should renewed volcanic activity occur, there would be sufficient warning to evacuate the immediate vicinity of these mountains.

Population growth has increased erosion and sedimentation problems in Shasta County. Removal of natural vegetation is common during construction operations and often leaves ground surfaces exposed and unprotected. This type of practice greatly facilitates erosion, particularly on steep slopes.

Expansive soils are most common in the mountains of the Western Upland French Gulch and Northeast Shasta Planning Areas. These soils are identifiable through soil tests and their affects or structures may be mitigated by proper engineering design standards.

PRIME AGRICULTURAL SOILS. A majority of the prime agricultural soils of Shasta County are located in the valley regions; the valleys of the Sacramento River and its tributaries, and the Fall and Pit River Valleys of northeast Shasta.

The agricultural lands of the Sacramento River and its tributaries are presently subject to development pressures, as they could be easily provided with urban services such as sewer, water and roads.

The Fall and Pit River Valleys are less subject to development pressures than those of the Sacramento River Valley due primarily to limited availability of urban services.

Mitigation Measures

- Seismic and Geologic Hazards Element
 - Policies SGa-e
- Agricultural Lands Element
 - Policies AGa-j

Conclusions

The General Plan would result in the exposure of larger numbers of persons, due to population growth, to essentially the same degree of risk of seismic and geologic hazards which now prevails throughout the County. This is not considered to be a significant effect. Development as proposed by the General Plan would require grading and other localized modifications of the County's topography. If improperly handled, these activities could cause significant erosion and sedimentation. This impact can be mitigated by adoption of erosion control standards, as provided by the Plan.

The General Plan would result in prime agricultural lands no longer being used for agricultural production. This would occur in part through the subdivision of some existing prime lands and their use for nonagricultural, primarily rural residential purposes, and in part through the nonagricultural, again primarily residential, development of existing parcels of prime lands which are now being used for agriculture. The Plan includes a variety of mitigation measures, including policies encouraging the small-scale agricultural use of such parcels, policies excluding residential uses and public services from agricultural areas, and restrictions in certain instances on the subdivision of prime lands. These mitigations will not completely eliminate the nonagricultural development of prime lands, but will substantially reduce it. On balance, the effect of the General Plan on prime agricultural lands does not appear to be significant.

HYDROLOGY

Hydrology encompasses the subjects of flooding and dam inundation hazards and water quality as they relate to the Shasta County General Plan.

Conditions and Impacts

Part Two: Countywide Elements

- Public Safety Group
 - Flood Protection: Findings
 - Dam Inundation: Findings, Table DI-1
 - Water Quality
- Resources Group
 - Timberlands
 - Minerals
 - Water and Water Quality

Summary

Flood hazard potential in Shasta County is greatest along the Sacramento River, and sections of the Churn, Cow, Dry, Sulphur and

Burney Creeks. Future development along these watercourses may alter natural landforms in such a way as to disrupt natural floodway drainage patterns. Disruption of these patterns in turn, may increase the erosion potential and/or the floodwater volumes along such water courses by reducing the amount of open soil necessary for percolation.

Future development may also increase public health and safety threats in dam inundation areas. Many of the dams classified by the State Office of Emergency Services as dams whose failure may result in injury or loss of life, are located in areas of concentrated populations, notably the Shasta and Whiskeytown Dams in the SCR Planning Area. Failure of Shasta Dam would result in the inundation of most of Redding and Anderson within less than an hour. Failure of Whiskeytown Dam would inundate over half of Anderson within two hours. Considering existing development trends and patterns, particularly in the SCR Planning Area, preclusion of future development in dam inundation areas would be infeasible.

Water quality is impacted by a variety of land uses and activities, but most notably construction activities (including structures and roads), septic tank failure, and runoff from urban areas. Surface water pollution potential is at its worst during the winter months when surface runoffs increase as the result of heavy rainfall. Runoff may carry polluting substances such as oil and grease from streets and autos, sediment from construction sites, litter, animal wastes and heavy metals such as lead from auto exhaust. Groundwater quality may be threatened if overdrafting occurs or when septic tanks fail. Both of these groundwater hazards are significant threats to water quality in Shasta County.

Mitigation Measures

- Flood Protection Element
 - Policies FLa-h
- Dam Inundation Element
 - Policies DIa-c
- Minerals Element
 - Policy M-d
- Water and Water Quality Element
 - Policies Wa-d

Conclusions

The General Plan will expose greater numbers of persons, through population growth, to substantially the same level of risk due to flooding and dam inundation which now prevails throughout the County. The Plan also would permit the development of residential parcels using on-site wastewater treatment systems. Some of these systems will fail, posing a threat to water quality. Since the Plan contains policies designed to limit the use of on-site systems to conditions where they will not fail, this effect is not considered significant.

VEGETATION AND
WILDLIFE

Impacts on plant and animal habitats, including unique habitats, and rare/endangered species populations are discussed in the referenced sections below.

Conditions and Impacts

Part One: Preface

- Framework for Planning
 - Natural Environment

Part Two: Countywide Elements

- Resources Group
 - Fish and Wildlife Habitat: "Findings"

Summary

Shasta County supports a wide variety of unique fish and wildlife habitats and populations, including several rare and endangered plant and animal species. Of particular significance are riparian corridors along the County's numerous watercourses, including the Sacramento River, the Fall River - Big Lake Wetlands, and various deer winter ranges. Intensive development in these areas may severely disrupt the ecological integrity of these habitats. Evidence of habitat disruption has already been provided along the Sacramento River, where unique streamside vegetative communities are being gradually replaced by rock rip-rap to prevent erosion of adjacent agricultural soils. These communities are also threatened by urban development and construction activities, particularly in the vicinity of the City of Redding.

Mitigation Measures

- Fish and Wildlife Element
 - Policies FWa-i

Conclusions

Fish, wildlife, and vegetation habitats will be destroyed as a result of the General Plan. Particularly impacted will be riparian corridors in urban areas. A specific impact will be the effect of further land divisions, as permitted by the Plan, in the Day Bench area. Further land divisions will adversely affect the Day Bench Deer Herd, despite mitigations contained in the Plan. These impacts are considered to be significant.

OPEN SPACE AND COUNTYWIDE RECREATION	Impacts on open space and Countywide recreation resources are discussed in the sections referenced below.
Conditions and Impacts	Part One: Preface ● Framework for Planning - Natural Environment Part Two: Countywide Elements ● Public Safety Group -Flood Hazard -Dam Inundation ● Resources Group - Agricultural Lands - Timberlands - Water and Water Quality - Scenic Highways - Open Space and Recreation - Fish and Wildlife - Heritage Resources Summary The central open space issue in Shasta County is the accessibility of such resources to residents in urbanized portions of the SCR Planning Area. Although large, undeveloped areas are presently accessible by auto, foot, bicycle or horse, future development in this region of the County may result in loss of these close-in open space resources. Recreation involves the active use of open space lands and the facilities designed to augment them. While at the present time Shasta County maintains adequate acreage to meet current and future countywide recreation demand, the major issue is again access. This may become increasingly apparent with the growth of the County population, particularly in the South Central Region.
Mitigation Measures	● Open Space and Recreation Element - Policies OSRa-e
Conclusions	The General Plan will result in the development of privately owned lands within the SCR area which now serve an open space function. These impacts are offset by policies requiring parklands dedications for certain subdivisions, policies providing for the maintenance of open space resources which also have an economic value (e.g., timberlands), and policies providing for the development of trails linking urban areas with openspace areas. Accordingly, these effects are not considered significant.
NOISE	This section of the EIR references those portions of the Plan which discuss impacts on the sound environment. Of particular significance are land use activities which may cause substantial increases in existing noise levels, exceed noise standards, or otherwise expose County residents to unhealthy noise levels.
Conditions and Impacts	Part Two: Countywide Elements

- Public Safety Group
 - Noise: "Findings"
- Appendices
 - Appendix F: Environmental Noise in Shasta County

Summary

Shasta County's noise environment is directly related to the degree and pattern of urbanization and associated transportation networks. Urban areas (Redding, Anderson) are exposed to higher noise levels than the rural areas which are extremely quiet.

Generally, traffic increases associated with the proposed population increases indicate that adverse noise impacts may be minimal over the next 20 years. Exceptions to this assessment may be the Central Valley Stillwater and Upper Churn Creek areas which may experience substantial traffic and therefore noise increases during the planning period as a result of rapid growth in these regions.

Mitigation Measures

- Noise Element
 - Policies Na-d

Conclusions

The General Plan would reinforce the existing pattern of higher noise levels in urban areas and lower noise levels in less developed areas. The Plan contains policies to protect the existing quiet areas of the County from noise-generating development. Although noise generated by the circulation system would have adverse impacts, these would be limited in number and geographic scope, and thus are not considered significant.

SCENIC HIGHWAYS

The scenic resources of Shasta County are important in that they strengthen the tourist industry and make major contributions to the quality of life in Shasta County.

Conditions and Impacts

Part Two: Countywide Elements

- Resources Group
 - Scenic Highways: "Findings"

Summary

Potential impacts on the visual resources of scenic corridors depends primarily upon decisions regarding the type, design, and siting of land uses along scenic highways. While current land uses along scenic highways rarely conflict with the visual character of the corridor, unregulated growth in these areas could lead to impairment of valuable visual resources.

Mitigation Measures

Part Two: Countywide Elements

- Scenic Highways Element
 - Policies SHa-n

Conclusions

The General Plan provides that most of the growth which is expected to occur will be located within Urban, Town or Rural

Community Centers. Development outside these centers which is visible from scenic highways will be subject to guidelines designed to mitigate their visual impacts. Overall, the impact of the Plan on scenic highways is expected to be insignificant.

HOUSING

Housing impacts consist of land use activities and/or plans which affect the quantity, type, distribution and availability of housing opportunities in Shasta County.

Conditions and Impacts

Part One: Preface

- Framework for Planning
 - Man-Made Environment
 - Institutional Environment

Part Two: Countywide Elements

- Community Development Group
 - Community Organization and Development Pattern: "Findings"
 - Housing: "Findings"
 - Water Supply, Wastewater Treatment, and Solid Waste Disposal: "Findings"
 - Community Design: "Findings"

Part Three: Community Plans

Appendices

- Appendix A: Population, Housing, and Employment Projections
- Appendix H: Housing

Summary

Population projections prepared for Shasta County estimate a year 2000 population of between 159,000 and 200,000 persons, compared to a 1980 population of 115,715. Estimates of future land demand to accommodate projected employment and population growth were developed by converting these projections into acres of land (Table CO-1). Based on relative development suitability of privately owned, undeveloped land in Shasta County, the developable land supply is more than adequate to accommodate future growth. Further, the development pattern proposed by the General Plan is designed to support a total County population of 200,000 persons by the year 2000. This supply of developable land, however, is not uniformly distributed throughout Shasta County, as the majority of this land is located in the SCR and North East Shasta Planning Areas.

A major housing concern is the assurance of adequate housing opportunities for existing and future County residents. Housing opportunities should be affordable and offer a range of housing types and locations. A substantial number of Shasta County residents presently cannot adequately meet their housing needs by relying

exclusively on their own resources. This condition is expected to continue into the future and will tend to increase as County population increases.

While the long-term housing supply appears adequate; in the short-term, housing for approximately 4,500 households located in both incorporated and unincorporated areas will be needed between 1982 and 1986. During this period, these households will be unable to meet their housing needs relying wholly on their own resources.

Mitigation Measures

- Housing Element
 - Policies Ha-f

Conclusions

The General Plan provides for substantial population growth which in turn will generate the need for a significant amount of new housing during the planning period, 1981-2000. Not all of these persons will be able to find affordable, adequate housing. This is a significant impact, but it is one which will be experienced nationally by all growing communities if present economic conditions continue. In fact, difficulty in obtaining housing in Shasta County and other growing communities may tend to constrain their growth.

The Housing Element contains several policies designed to improve housing opportunities. The most important policy concerns ensuring the availability of an adequate supply of land for new housing construction.

CIRCULATION

Impacts on circulation include potential changes in road usage, circulation patterns and modes of transportation throughout the planning period.

Conditions and Impacts

Part One: Preface

- Framework for Planning
 - Man-Made Environment

Part Two: Countywide Elements

- Community Development Group
 - Community Organization and Development Pattern: "Findings"
 - Circulation
 - Community Design

Part Three: Community Plans

Summary

The circulation systems and development patterns of any community are interdependent. A particular development or land-use pattern generates specific circulation requirements in terms of system elements and transportation modes. Conversely, a circulation system also plays a major role in shaping a communities future development pattern.

During the next 20 years, the SCR Planning Area will experience significant growth. The existing land use pattern however, places severe limitations on the future development of the roadway

network required to serve projected growth. This is especially true in the area east of Redding between State Routes 299 and 44. Acquisition of a future right-of-way in this area may require either the demolition of existing housing or locating a future roadway further to the east where existing development is less dense.

Future growth in Shasta County will impact the circulation systems primarily in the SCR and to a lesser extent, the North East Shasta Planning Areas. An analysis of traffic implications of growth within these areas indicates that while most corridors will be able to accommodate traffic increases resulting from increased growth, some routes may require road improvements or expansions in order to accommodate increased traffic volumes. Routes which may need such improvements include Canyon and Quartz Hill Roads and Lake Boulevard, west of Highway 273, Route 151 west of I-5; and Old Oregon Trail between Oasis Road and Route 44. Route 44 west of Palo Cedro and Placer Road West of 273 may also require improvements or expansions by the end of the planning period. Future growth in the industrial sector is expected to generate greater demands for rail services. However, since railroads rights-of-way are fixed and not likely to be expanded, future land uses requiring rail service will need to be able to locate where existing services are accessible.

Mitigation Measures

- Circulation Element
 - Policies Ca-m

Conclusions

Several major circulation improvements in the SCR planning area would be required to accommodate the growth projected by the General Plan. The potential environmental impacts of these improvements relate to several different areas. Construction of new roads and expansion of the existing roads would consume lands which could be otherwise used or left undeveloped. In some instances it may be necessary to acquire housing through condemnation and demolish it to provide circulation rights-of-way. Circulation system improvements will increase energy consumption by automobiles, increase automobile emissions, and increase the noise levels in certain areas. Finally, the construction of circulation improvements will have very geographic-specific and irreversible growth inducing impacts. Overall the environmental impacts of the circulation improvements would be significant. Various elements of the Plan contain policies designed to mitigate these impacts but they cannot totally be eliminated.

PUBLIC FACILITIES

This section references discussions of the potential impacts on fire and sheriff protection, schools, libraries, and community recreation facilities.

Conditions and Impacts

Part One: Preface

- Framework for Planning
 - Institutional Environment

Part Two: Countywide Elements

Public Safety Group

- Fire Safety and Sheriff Protection: "Findings"

Community Development Group

- Schools, Libraries, and Community Recreation: "Findings"

Part Three: Community Plans

Appendices

Appendix A: Population, Housing, and Employment Projections

Summary

FIRE AND SHERIFF PROTECTION. The growth of Shasta County during the planning period will require expansion of both fire and sheriff protection services. Fire protection service needs will be especially great in urban areas where the threat of non-wildland fire increases with population. A major obstacle to improving these services will be the high public costs of such services and the diminished ability of local government to meet these costs due to tax constraints.

Impacts on sheriff services will be especially evident in the unincorporated areas of the County. Service requirements resulting from the growth of the tourist industry will also continue to be significant.

Coordination between the County Planning Department and the County Fire and Sheriff Departments will be useful in identifying future service needs and areas where development could occur without generating additional demands for protection services.

SCHOOLS. The population growth projected for Shasta County will ultimately result in public school population increases which will require the construction of new facilities. Presently, 7 of the 8 school districts in the County have been designated as overcrowded by the Shasta County Board of Supervisors.

LIBRARIES. Demand for library services will continue to grow with the increase in County population. Annual reports from branch libraries in recent years cite an increasing reluctance of their patrons to travel to Redding to use the County Library Headquarters and consequently, an increasing dependence on branch facilities. Immediate needs for new facilities include replacing the rented Central Valley facility with a County owned library in order to guarantee continued uninterrupted service in this area. Future growth in the Centerville and Happy Valley areas may also necessitate establishment of branch library facilities sometime before the end of the planning period.

COMMUNITY RECREATION. Recreation needs in urban areas have been typically met by school districts, special districts, and service clubs. However, recent reports indicate that in many unincorporated urban areas of the County, a large portion of

recreation needs are not being met. The growth of these areas over the next 20 years may cause a corresponding increase in recreation demand.

In rural areas of the County, open-lands are generally easily accessible, population densities are low, and thus informal recreation opportunities are readily available. Schools and service organizations play a major role in meeting most recreation needs in these areas.

Mitigation Measures

- Fire Safety and Sheriff Protection Element
 - Policies FSa-d
- Schools, Libraries, and Community Recreation Element
 - Policies SLR a-c

Conclusions

The level of population growth assumed by the General Plan will generate a substantial increase in the demand for basic public services. This demand would come at a time when the fiscal abilities of local governments in Shasta County to meet this demand are severely limited. The Plan contains policies intended to mitigate these impacts by encouraging new development to locate in areas with existing, unused service capacities. These opportunities, however, are limited. It is probable that some of the service demands generated by growth will be inadequately satisfied or not met at all.

WATER SUPPLY AND WASTEWATER FACILITIES

In this section, the impacts of the future development pattern on water supplies and wastewater treatment facilities are discussed.

Conditions and Impacts

Part One: Preface

- Framework for Planning
 - Natural Environment
 - Man-Made Environment

Part Two: Countywide Elements

- Community Development Group
 - Water Supply, Wastewater Treatment, and Solid Waste Disposal

Part Three: Community Plans

Appendices

- Appendix D: "Water and Wastewater Treatment"

Summary

WATER SUPPLY. A major issue concerning the availability of water rests in the uncertainty regarding capacities of Shasta County's groundwater resources. These resources are known to exist in substantial quantities in the SCR and North East Planning Areas, yet information in other areas of the County is sketchy. As a result,

future development in many of the remaining eight planning areas may face severe water shortages if populations in such areas are allowed to increase without confirmation that continuous water supplies will be available for all users in the future.

A second major water supply impact involves the allocation of Central Valley Project water (surface water supplies). Many water districts currently do not use their total allocations of CVP water. However, beginning in 1982, these districts must begin paying for their total allocations, including that which is unused, or they will lose the unpaid portion of their allocations. In order to maintain full CVP allocations districts may increase customer's rates, encourage additional development within their districts, or both. Raising rates unfairly places the burden of resource access on an unfair number of County residents, yet encouraging new development may be a premature step in many areas. Combining the two options would necessitate coordinated water supply and land planning efforts.

WASTEWATER TREATMENT. Methods of treating wastewater vary from individual/family systems to highly technical community systems.

The simplest system used in Shasta County is a septic tank and leachfield which is designed to serve a single dwelling. Because of narrow suitability requirements, however, they are highly susceptible to failure which frequently results in groundwater contamination. With few exceptions the use of septic tanks is limited in Shasta County.

The suitability for widespread application of alternative, on-site wastewater treatment systems is also unproven. Further, electrical operational costs are extremely high and are expected to continue experiencing dramatic increases.

Community wastewater treatment systems include treatment plants which discharge effluent into surface water courses, winter storage and summer land application, and the use of evaporation ponds. Treatment plants are limited by the availability of a water course to receive treated effluent. The Sacramento and Pit Rivers are the only two watercourses available for such use on a year-round basis. Winter storage - summer application is limited by topography in all but four Shasta County Planning Areas (Northwestern Forest, Big Bend, French Gulch, and Lassen). Use of evaporation ponds is limited by seasonal rainfall to portions of the Eastern and Western Uplands, North East Shasta, and SCR Planning Areas.

Mitigation Measures

- Water Supply, Wastewater Treatment, and Solid Waste Element.
 - Policies WSa-f; WTa-e
- Appendices
 - Appendix D: Water and Wastewater Treatment

Conclusions

The growth projected by the General Plan would place substantial demands on the County's water resources and wastewater treatment capabilities. In both instances, the Plan attempts to locate growth where these demands can be most easily accommodated. Specifically, the major portion of growth would occur in the SCR area which has an ample supply of water from both surface and

groundwater sources. Likewise, the other substantial growth area would occur in the Fall River Valley, location of a groundwater basin. It must be noted that the safe yields of the Redding and Fall River groundwater basins are unknown, but there is no evidence indicating that they will be adversely affected by the water demands implicit in the General Plan population growth.

Most of the growth projected by the General Plan would be accommodated by the expansion of existing community wastewater treatment systems. The impacts of these systems, if properly designed and operated, would be insignificant. The remaining growth would be accommodated by on-site, treatment system, most commonly the septic tank and leachfield. Again, if this type of system is properly designed, installed, and maintained its environmental impacts are insignificant and are actually beneficial in terms of groundwater recharge. The General Plan contains policies designed to ensure proper design, installation, and maintenance. Especially important are policies relating density of development to a site's wastewater treatment capabilities. If these policies are adhered to, the impacts of on-site systems are expected to be insignificant.

HISTORIC AND CULTURAL RESOURCES

Referenced EIR chapters address potential impacts of the General Plan on the archaeological (Native American) and historical artifacts of Shasta County

Conditions and Impacts

Part Two: Countywide Elements

- Resources Group
 - Heritage Resources: "Findings"

Summary

Development in areas of Shasta County containing heritage value (archaeological sites, historic sites) may result in damage or loss of historic or cultural artifacts if measures to preserve them are not implemented. Of primary concern are ancient burial grounds and village sites of Native American groups who once populated Shasta County.

Mitigation Measures

- Heritage Resource Element
 - Policies HERa-d

Conclusions

Development within Shasta County as prescribed by the Plan would potentially result in the destruction of heritage resources. The Plan contains policies designed to mitigate these impacts, but they will not be totally eliminated. These impacts are considered significant.

AIR QUALITY

In this section, the air quality impacts of the Plan are considered.

Conditions and Impacts

Part Two: Countywide Elements

- Resources Group
 - Air and Air Quality

Appendices

● Appendix G: Air Quality

Summary

Projected levels of organic gases, oxides of nitrogen and particulates, assuming the planned rate of growth in Shasta County, far exceed those projected by the Shasta County Air Pollution Control District. This is due to a much higher assumed rate of population growth.

Air quality in the Sacramento Valley Air Basin portion of Shasta County can be expected to deteriorate for ozone, particulates, and visibility. As current levels are "borderline" with respect to the standards, it appears that maintaining those standards in future years may be difficult. No major air quality problems are foreseen for the Northeast Plateau Air Basin portion of Shasta County.

Shasta County's "unclassifiable" designation with respect to standard attainment for ozone and particulates does not appear to be advantageous. Clarification of the County's status would be helpful for the purpose of air quality planning.

The single most important factor in determining future changes in particulate air quality and visibility will be the construction of unpaved roads in the SCR area. A revision of current road standards for new construction in the SCR area to require paved access roads would be an effective means to avoid future particulate increases. A program to pave existing heavily-travelled unpaved roads is also advisable.

It is recommended that future land uses be arranged to reduce air pollution emissions. In that employment is expected to be concentrated along Interstate 5, concentrating population along this corridor would reduce trip lengths. Concentrating growth in the SCR area has the advantage of encouraging the potential future development of non-auto transportation such as transit, bicycles, carpooling, or vanpooling. Dispersed growth has the disadvantages of long travel distances and its total reliance on automobiles.

Both inside and outside the SCR area, the development of consumer services within local communities would tend to reduce long-distance travel and the resulting vehicle emissions.

Conclusions

Air quality in the Sacramento Valley region of Shasta County will be significantly impacted by the development prescribed in the General Plan. As outlined above, the Plan contains several policies designed to mitigate these impacts, but even if they are followed, some degradation air quality will result.

ENERGY

In this section, the energy impacts of the Plan are discussed.

Conditions and Impacts

Part Two: Countywide Elements

- Resources Group
 - Energy

Summary

Development as proposed in the General Plan will cause increases in both embodied and operational energy consumption. Embodied energy would be consumed by the construction roads, housing, and public services required to accommodate additional population growth. Over one-half of all operational energy consumed would be accounted for by transportation, primarily by the automobile.

Conclusions

The General Plan would cause significant impacts relative to the consumption of nonrenewable energy resources, mainly for transportation by the automobile. While the Plan contains policies designed to provide less energy consuming alternatives, these effects would not be eliminated.

RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES OF MAN'S ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

The major significant impacts of the General Plan would be the consumption of land resources for the housing and circulation improvements required to accommodate growth. These major impacts would in turn be responsible for other significant impacts, including effects on the Day Bench Deer Herd, increased energy consumption, air quality degradation, destruction of heritage resources, and increased public services demands. Consumption of the land resources, as described above, would foreclose future options with respect to these lands.

Despite these significant impacts, adoption of the Plan is justified because it does provide for the long-term maintenance of the County cropland, grazing and timber resources, protects water quality, and minimizes adverse air quality impacts. Failure to adopt the Plan would result in substantially greater impacts reducing both the long-term productivity of the County's natural resources and its desirability as a place to live.

GROWTH INDUCING IMPACTS OF THE GENERAL PLAN

There is little question that the population of Shasta County will increase; the issue is by how much and at what rate. To a large extent, resolution of this issue will depend on many factors which do not lend themselves to prediction and which thus are difficult to accurately account for in the planning process. Examples of such growth factors include the in-migration of retired persons and families seeking refuge from metropolitan areas, and their associated problems. If these and other trends in the County continue, the population growth rate in the County will remain high. On the other hand, it may be that the growth rate will level-off over the next two decades. Given these alternatives, two population projections were constructed: a "low" projection of 159,000 and a "high" projection of 200,000 persons.

A major growth inducing impact of the General Plan is its assumption of the higher of the two population growth rates. By assuming a year 2000 population of 200,000, the Plan ensures that too much rather than too little land will be available to development for housing, employment, and public services.

Allowing present growth and development trends to continue may well result in problems in providing adequate water supplies and wastewater treatment facilities to rural homesites; in the preservation of land resources sufficient to support the agriculture and timber industries; in the ability of government to fund services adequate to ensure the public safety and welfare; in the air, noise, and water pollution and energy costs of an auto dependent land use pattern; and in the scenic beauty of the County.

An alternative to present trends is a strategy of growth accommodation which is proposed by this General Plan. This strategy recognizes the growth the County will experience over the next 20 years and plans for the availability of the land supply necessary to accommodate this growth.

Further, every five years, additional lands are added to the supply to ensure that at least a 15 year land supply is always available.

The Shasta County General Plan recognizes three facts in its growth accommodation approach. One, while Shasta County contains adequate land to support a population of 200,000 persons by the turn of the century, this land is not uniformly distributed throughout the County. Two, the County Government, through this General Plan, may direct growth into areas of the County where this land supply is available and would incur only minor capital improvement costs (for water, sewerage, roads, schools, etc.). Three, both the growth projections and the land supply inventory will require periodic review and revision to keep pace with changing conditions. These premises propose that by matching projected population growth with the land supply inventory, growth over time may be accommodated while preserving the quality of life in Shasta County.

PLAN ALTERNATIVES

NO PROJECT ALTERNATIVE

The "no project" alternative is not proposed based on Section 65300 of the California Government Code, which requires all local jurisdictions to adopt a general plan. At the present time, Shasta County does not have a complete, adequate, and internally consistent general plan which addresses the nine mandatory elements. "No project" thus was not considered as a possible alternative to the proposed general plan.

ALTERNATIVES ATTAINING THE BASIC PROJECT OBJECTIVES

Three alternatives to the proposed plan were developed during the planning process. Each alternative proposes a means of utilizing Shasta County's developable land supply to accommodate the growth projected for the County between 1981 and 2000. Each alternative growth pattern represents a certain idea or concept which could guide growth in the County over the next 19 years and thereby establish a basic land use pattern for succeeding decades. A discussion and evaluation of each of these three alternatives is contained in Appendix C: Growth Alternatives for Shasta County.

ALTERNATIVES ELIMINATING ADVERSE EFFECTS

Any feasible alternative will have adverse effects on the natural environment of Shasta County. Assuming population and development growth as givens, impacts on the natural environment are inevitable, as the natural and man-made worlds are inherently at odds.

An alternative plan which eliminated all adverse environmental effects would only do so at the cost of eliminating attainment of nearly all Plan Objectives. Such an alternative might call for severe restrictions on developable lands and would concentrate populations on very small lots.

Because of the magnitude and far reaching impacts of this "project", such an alternative was deemed infeasible and not considered as viable

LIST OF ORGANIZATIONS AND PERSONS CONSULTED

Anderson, City of

- James Wilbur, Planner

Anderson-Cottonwood Irrigation District

- John Goodsen, Manager

Bureau of Land Management

- Robert Korfhage, Planning/Environmental Coordinator

Burney County Water District

- Charles Lawson, District Manager

California Natural Areas Coordinating Council

- Leslie Hood, Executive Director

California Department of Fish and Game

- John Hayes, Biologist
- Terry Healy, Assistant Fisheries Biologist
- John Speth, Planner

California Department of Forestry

- Steve Fitch, District Ranger, Shasta Lake District, Shasta-Trinity National Forest.
- Gary Harlow, Forester III
- Roger Hofhenke, Fire Prevention Officer I

California Department of Health Services

- Lloyd Batham, Hazardous Materials Management
- Eric Workman, Hazardous Materials Management

California Department of Transportation (CALTRANS)

- Vicki Bacan, Landscape Architect
- Charles Chenu, Transportation Planner
- Dottie Odell, Transportation Planner
- Lew Wood, Landscape Architect

California Department of Water Resources (DWR)

- E. J. Barnes
- Allan Dolcini, Department Chief, Northern District
- Phil Lorens, Resource Evaluation Branch Chief
- Jean Serr, Senior Engineer

California Office of Emergency Services

- F. L. Barnett, Planning Division

California Office of Historic Preservation

- Steve Mikesell

California Office of Planning and Research

- Dennis Castrillo

California Regional Water Quality Control Board

- James Krause, Associate Sanitary Engineer
- James Pedri, Senior Water Resources Control Engineer

Carter House Science Museum

- Mary Allegrone, Energy Coordinator

Cooksley Geophysics, Inc.

- Jim Cooksley, Principal
- Jim Wallace, Senior Geologist

Fall River Mills Community Services District

- Cecil Ray, Director

Harris, Donna

Lydon, Philip, Professor of Geology, Chico State University

Mountain Gate Trail Riders

Pacific Gas and Electric Company

- Jerry Ezell, Engineer
- Allan Fowler, Economics and Statistics Department
- Stewart Svensson, District Manager, Redding

Palo Cedro Trails Council

Redding, City of

- Carl Arness, Director of Public Works
- Peggy Doyle, Energy Coordinator
- Robert Galusha, Engineer, Department of Public Works
- Woody Hamilton, Traffic Engineer, Department of Public Works
- John Keany, Planning Department
- Jim King, Planning Department
- Phil Perry, Director, Planning Department
- Douglass Will, Transportation Planner

Redding Museum

Redding Regional Wastewater Treatment Plant

- James Gassler, Supervisor

Shasta County Assessors Office

- Tony Estachio, Manager

Shasta County Board of Realtors

- Shel Meyer, Board of Directors

Shasta County Counsel

- Dave Frank, Deputy County Counsel

Shasta County Department of Agriculture

- Bruce Wade, Agricultural Commissioner

Shasta County Department of Public Works

- Bruce Carter, Traffic Engineer
- Richard Curry, Director
- Alan Lowe, Associate Engineer
- Ed Seigmund, Supervisor
- Harry Smith, Traffic Engineer

Shasta County Division of Environmental Health

- Fred Morrison, Supervisor
- Dale Watson, Director

Shasta County Housing Authority

- Michael L. Mitchell; Executive Director, Self-Help Home Improvement Project (SHHIP)
- William Ware, Executive Director

Shasta County Office of Emergency Services

- Robert Neslen, Sheriff's Lieutenant

Shasta County Planning Commission

- Steve Albaugh
- Bob Bosworth

Shasta County Planning Department

- Denis Cook, Principal Planner
- Jim Cook, Assistant Planning Director
- Joe Hunter, Director

Shasta County Water Agency

- Julie Howard, Administrative Assistant
- Larry Preston, Chief Engineer

Shasta Dam Public Utilities District

- Michael Kenny, Director
- Bruce Webb, Engineer

Shasta Horeseman's United Council

Shasta-Trinity National Forest

- Gary L. Adams, Chief, Branch of Land Management Planning
- David Johnson, Assistant to Chief

Whiskeytown-Shasta-Trinity National Recreation Area

- Ray C. Foust, Superintendent

Shasta Wonderland Elite Athletic Team

Society of California Archaeology

- Makato Kowta, Director

Society of American Foresters, Wyntoon Chapter

- Frank Barron, Chairman, Land Use Planning Committee

U.S.D.A. - Soil Conservation Service

- Pam Hubbard, District Representative
- Wes Lindsey, Area Soil Scientist
- Randy Reeves, District Conservationist

U.S. Environmental Protection Agency

- Rene Fuentes, Hydrologist, Water Division

SEDWAY/COOKE PROJECT STAFF

Thomas Cooke, Principal-in-Charge
Paul H. Sedway, Principal-in-Charge

Planning

Fred Etzel, Project Manager
Eve McElheney
Greg Sutter

Graphics

Debra Shishkoff, Report
Designer/Coordinator
Juliana Pennington
Jack Schnitzius
Lynda Wagstaff

Word Processing

Jerome Moskowitz, Lead Operator
Diane Shoenstein
Janine Stevens
Grace Wright

Editing

Rita Fuhr
Sue Hyde

U.C. BERKELEY LIBRARIES



C124922498

